# CURRENT NEWS

August 22, 1914

## Imperial Valley Canal System Can Now Be Extended

American and Mexican Receivers Cease Litigation Over Infringing Activities and Plan New Work on Canal System

Col. W. H. Holabird is receiver and A. F. Andrade is Mexican receiver for the California Development Company, which supplies water to the Imperial Valley, Cal. A large part of the canal system which the company operates is in Mexican territory, and for two or three years there has been friction over the maintenance and extension of this part of the system. The Mexican receiver has not permitted the American receiver to operate on the Mexican side, and in the case of emergency work a third party had to be commissioned to do the work so as to prevent interference. Injunctions, suits on contracts and proceedings against ranchers for contempt have grown out of the controversy between the receivers, which is said to be only a side issue of the contest between the large interests involved.

A contract was recently signed by the two receivers whereby all work on the canal system in Mexico shall be done by Receiver Andrade under the direction of the engineers of both receivers, and shall be paid for by Colonel Holabird. It is also stipulated that the Mexican receiver shall make no further claim to rentals paid by American users. The contract is now held in escrow by a trust company until the mutual water companies of the Imperial Valley shall execute a bond to insure payment of the money by Colonel Holabird for the work of repair.

It is said to be the purpose of the people of the Imperial Valley eventually to take over the irrigation system and run it as a co-operative project; hence the mutual water companies are anxious to furnish the bond, so as to insure a good condition of the system when it is controlled by the people.

One of the first results of the new agreement will be the starting of work on a second flume across the New River to replace Encina flume, which has become inadequate as well as unsafe in times of flood. The new flume, which it is estimated will cost about $70,000, will supply all the American and Mexican lands west of the New River, and in addition to affording a safe crossing is to have sufficient capacity to avert future shortage when more of the tracts are developed.

## War Causes Abandonment of $30,000,000 Worth of Construction in British Columbia

The shadow of the European war has caused practically all the municipalities of British Columbia to curtail expenditures for construction. At least $30,000,000 worth of work practically under way in the Province will be postponed. The city bank of Vancouver has requested that only the very necessary work, or that for which there are funds on hand, be undertaken until the situation clears a little. This will probably result in delaying the proposed erection of the Coal Harbor Causeway, the Canadian Pacific Railroad's district paving, for which bids have just been called, the English Bay and Kitsilano Beach Park improvements and a number of highway improvements. It is conservatively estimated that work thus held up in Vancouver alone will exceed $4,000,000, and this does not include the Dominion Government work, totaling more than $7,000,000, the largest item of which is $5,000,000 for a drydock.

Orders for curtailment of expenditures for government and municipal improvements in Victoria, Nanaimo, Prince Rupert and Point Grey have been made by all departments, and it is expected that these will apply for six months, which will means practically a year of slack public work, since little work is done in the winter. Fully $20,000,000 worth of construction work, touching practically every department of the field, in the Province outside of Vancouver has been taken from the boards. The joint sewerage system of Vancouver, Point Grey and surrounding territory, to cost $1,000,000, will not be carried out until next year. Calls for bids for two drill halls, to cost $350,000 each, have been withdrawn. Plans for many schools in Victoria and Vancouver, a large expenditure for which had been provided by bond issue, have been temporarily withdrawn. Indications are that private capital, which has been slow to invest for the last year, will follow the example set by public bodies, holding off indefinitely.

Work not ready to start, but for which definite plans were being made until the announcement of general war, totals fully $10,000,000. The largest single investment was to be the Grand Trunk Pacific Railway drydock at Esquimalt, estimated to cost $3,500,000, and the second was the $2,000,000 bridge over the Second Narrows for the Burrard Inlet Bridge & Navigation Company, plans for which were recently sent to Ralph Modjeski, of Chicago, for approval.

## Panama Canal Opened to Commerce

With very little ceremony, the commercial opening of the Panama Canal was signalized Aug. 15 when the steamship "Ancon," with Colonel Goethals and other officials aboard, was locked through. The official opening is set for next spring, but from now on all vessels drawing not more than 30 ft. may pass.

The "Ancon" left Cristobal at 7 a.m., was lifted through Gatun locks in 70 min. and reached the Pacific side at 4 p.m.

Newspaper dispatches state that four merchantmen and one yacht made the trip Aug. 16, and three more vessels passed on the following day. This country will be saved embarrassment should a vessel of one of the warring European powers request passage by the provision that such vessels, except in cases of necessity, must make an uninterrupted trip through the canal, not being allowed to coal, revictual, or embark and disembark troops.

## United States Engineers Inspect Ports of the Pacific Coast

Four members of the United States Board of Engineers for Rivers and Harbors are inspecting the ports along the entire Pacific Coast. The party is headed by Col. William M. Black, and includes Col. L. H. Beach, Col. T. V. Abbott, Lieut.-Col. H. C. Newcomer and A. H. Weber, secretary of the board. After examining San Diego harbor improvements the party proceeded north on Aug. 10 and spent two days studying conditions at Los Angeles and Long Beach harbors. The next stop was Santa Cruz, and on Aug. 13 San Francisco was reached, where the improvements under way or projected were gone over in detail. After a trip up the Sacramento River the party was to proceed north, touching at Crescent City, Eureka, Portland, Tacoma and Seattle.

## Brick Manufacturers to Meet at Buffalo

The eleventh annual meeting of the National Brick Manufacturers' Association will be held at the Statler Hotel, Buffalo, N. Y., Sept. 9-11. The business sessions will be completed on the first day and the remaining two days will be devoted to inspections of brick pavements in and near the city. To show that these will be more than perfunctory examinations the committee in charge has designated the object of the trips as "a study of brick-pavement construction for country highways."

## Flag Raised on Equitable Building

At noon Aug. 15 a 20 x 30-ft. flag was flung to the breezes on the top of the new Equitable building in New York City, celebrating the erection of the first of the last tier of columns of the thirty-eighth story. This column was actually placed a week before, but the ceremony was postponed because so many flags were at half mast on account of the death of President Wilson's wife.

The new building, articles descriptive of which have been published from time to time in the Engineering Record, will house upward of 15,000 persons and covers the entire block from Broadway, opposite Trinity Churchyard, to Nassau Street, between Pine and Cedar Streets.

## New Construction Activities

Awards of Large Bridge and Paving Contracts Feature Week's Building Operations, Which Exhibit Relatively Slight Curtailment

The country-wide stoppage of construction has certainly not materialized in the severe form forecast by some war-worried observers. Canada's closer connection with the disturbance is shown in the halting of many improvements in British Columbia, but Toronto, a typical city of the eastern section of the Dominion, has decided to proceed with its program. The forceful action of American bankers and manufacturers in rushing plans to fill the demands of South American trade will aid in restoring confidence.

An unusual number of bridge contract awards characterizes the week's construction news. The largest was that for two sections of the Hanover Street bridge in Baltimore, let at $668,000. Lettings by the highway departments of California, Maryland and Illinois, aggregating $630,000, and the award of $340,000 worth of resurfacing contracts in Philadelphia keep the paving-field activities well to the fore. Plans have been adopted for a very large drainage and flood-protection project in Missouri, which will probably cost $1,250,000 to complete.

### Highways and Paving

Three State highway departments—in California, Maryland and Illinois—have let contracts for $630,000 worth of road construction. California made the greatest award; out of ten sections, the sum of low bids for construction of which was $520,000, four were let, the combined bids totaling $250,000. In Maryland 24 mi. of highway are to be built for $230,000, and in Illinois contracts totaling $150,000 were awarded. But Philadelphia has awarded many resurfacing contracts, to cost $340,000, taking the lead for the week's greatest activity from the State departments. City paving contracts have also been awarded at Los Angeles, where a $157,000 boulevard is to be built, and at Toledo, Ohio, for paving to cost $144,000. Seattle has opened bids for a block pavement which will cost $170,000. At Elizabeth, N. J., bids are desired for resurfacing a large area of macadam with asphaltic concrete. Elections to authorize large bond issues are to be held at Hanford, Cal., and Sulphur Springs, Tex. Bids are desired at

Canton, Ohio, for a $355,000 paving improvement.

**Bridges**

Contracts amounting to $668,000 have been let for constructing the first two sections of the Hanover Street (Baltimore) bridge. The low bids for constructing the Belmont Avenue bascule bridge at Chicago totaled $247,000. Two other large contracts, each to cost close to $200,000, were let—one for a 1/3-mi. structure over the Susquehanna River at Wyoming, Pa., the other for a concrete viaduct to be built by the Louisville & Nashville Railroad at Birmingham, Ala. At Des Moines, Iowa, contract for erecting a reinforced-concrete bridge has been let at $139,000. A bond issue for completing the Clark Avenue bridge has been voted at Cleveland, and it is reported that arrangements for the erection of a bridge across Newark Bay, connecting Bayonne and Elizabeth, N. J., are going forward.

**Hydraulic and Kindred Development**

Plans have been adopted for a drainage and flood-protection project in Missouri, which may cost more than $1,000,000. Bids were opened for completing construction of a section of the New York State Barge Canal; the low bid was $120,000. Bids are requested for a large improvement in the levee drainage district near Pittsfield, Ill. Improvements to the harbor at Norwalk, Conn., to cost $200,000, have been recommended.

**Miscellaneous**

Following close on the rejection of one garbage-disposal plan, the Toronto (Canada) Works Commission has proposed a new plan involving an expenditure of $480,000. Contract for building a station for the Oregon Short Line Railroad at Pocatello, Idaho, has been let at $150,000. A $300,000 track-lowering improvement is planned by the city of Portland, Ore., the Portland Railway, Light & Power Company, and the Oregon-Washington Railroad & Navigation Company. It is reported that a dock reconstruction to cost $250,000 is about to be started at Seattle by the Grand Trunk Pacific Railroad Company, and a large terminal improvement is projected at Savannah, Ga., by the Ocean Steamship Company.

Three large building contracts have been let—one for erecting a church at Cleveland, to cost $250,000, another for a $380,000 school at Detroit, and the third for a New York City office building, which will cost $500,000. Bond issues have been voted at Chattanooga, Tenn., $300,000 for a school and hospital; Findlay, Ohio, $300,000 for two schools, and Fremont, Ohio, where $400,000 was made available for erecting a court house. Plans are ready for the following structures: High school, at Philadelphia, to cost $650,000; lodge building, Pittsburgh, $400,000; clubhouse, Columbus, Ohio, $300,000; Y. M. C. A. building, Brooklyn, N. Y., $977,000, and a $250,000 building to be erected for the Chilean Government at the Panama-Pacific Exposition site.

## News of Engineering Societies

**The San Francisco Association** of the American Society of Civil Engineers held its regular bi-monthly meeting Aug. 21. A. Kempkey, Jr., discussed the East Contra Costa Irrigation project.

**The Southern California Association** of the American Society of Civil Engineers held its regular bi-monthly meeting Aug. 12 at Los Angeles. Samuel Storrow spoke on "Subways for the Relief of Traffic Congestion."

**The Memphis Engineers' Club**, of Memphis, Tenn., held its regular semi-monthly meeting Aug. 12. J. H. Weatherford, engineer for the city in charge of construction of a drainage system and pumping plant, described that work. The club approved a plan of a civic organization for patronizing local architects and engineers and decided to make an inspection trip Sept. 13 to the new power houses of the Memphis Street Railway Company.

## Personal Notes

R. C. Harris has been appointed resident engineer for the Canadian Pacific Railway, with office at Calgary, Alta.

George E. Ericson, chief inspector of public works at Moline, Ill., has been appointed Commissioner of Streets and Public Improvements.

Dr. Karl Imhoff, of Essen, Germany, has had to cancel his plans for visiting the United States in September owing to the war in Europe.

J. D. Evans, chief engineer of the Central Ontario Railway, has been appointed division engineer of the Ottawa division of the Canadian Northern Railway.

George W. Cooke, civil engineer, of Johnson City, Tenn., has been elected highway engineer for Jackson County, Tennessee, with headquarters at Gainesboro.

R. A. Baldwin has been appointed engineer of maintenance of way of the Ontario Grand division of the Canadian Northern Railway, Eastern lines, with headquarters at Toronto, Ont.

Walter F. Beyer, assistant engineer in charge of the Division of Lighthouses, in the Panama Canal service, resigned July 15. He was appointed to the service in 1911, as assistant engineer in the First Division.

Francis H. Hambleton, consulting engineer for the Consolidated Gas Company, of Baltimore, who sailed for Europe not long before the outbreak of hostilities, has cabled his friends, stating that he is safe at Berne, Switzerland.

Thomas Turnbull has been appointed assistant chief engineer of the Canadian Northern Railway, with headquarters in Winnipeg. For the past four years Mr. Turnbull was with the Canadian Pacific Railway in the West, and with the Hudson Bay Railway.

Prof. H. C. Ramsower, assistant professor of agronomy at the College of Agriculture, Ohio State University, has been appointed head of the new department of agricultural engineering. Professor Ramsower is a graduate of the University in which he is teaching, and took a post-graduate course in engineering.

Capt. Henry Zenas Osborne, Jr., office engineer in the city engineer's office at Los Angeles, Cal., has been appointed a member of the Los Angeles Board of Public Works. Captain Osborne was graduated in civil engineering from Leland Stanford University in 1897, since which date he has held various positions in the municipal engineering department of Los Angeles.

W. R. McCann, supervisor of the Division of Erection, in the Panama Canal service, has resigned and returned to the United States. Before his appointment to the Canal service in 1907 Mr. McCann was employed by the Chicago Edison Company. From 1908 to 1910 he was absent from the Canal Zone, taking a two-year course in engineering at the University of Wisconsin.

Rutledge Smith, general agent for the receivers of the Tennessee Central Railroad, has been appointed superintendent. Mr. Smith was born in Tennessee in 1870 and in his earlier years was a civil engineer, but until three years ago he has confined his activities to newspaper work and banking. In 1911 he became industrial agent of the Tennessee Central Railroad and has steadily progressed.

George C. Bunker, since 1909 chief chemist and bacteriologist with the American Waterworks & Guarantee Company, which has been succeeded by the American Waterworks & Electric Company, of New York City, has resigned to accept a position as water physiologist with the Isthmian Canal Commission, at Cristobal. He will have charge of the purification of all water used on the canal. Mr. Bunker is making a specialty of rapid-sand-filter operation.

## Obituary Notes

Jacob Langeloth, of New York City, president and director of the American Metal Company, died Aug. 14 at his summer home at Riverside, Conn. Mr. Langeloth was born in 1852 in Mannheim, Germany, and came to this country in 1884. He held office in several manufacturing companies and was a member of the American Institute of Mechanical Engineers.

John N. McClintock, long prominent as a civil engineer in Boston, died at his home in Dorchester, Aug. 13, at the age of sixty-eight. He was a native of Hallowell, Maine, and was educated at Bowdoin College, being graduated in the class of 1867. For many years he was employed in the United States Coast and Geodetic Survey, his work including topographical investigations on the coast and boundary lines from Florida to Mexico and, later, similar activities along the New England coast and in the Lake Champlain district. For some years he had been in independent practice at Boston, and at the time of his death was president of the American Sewage Disposal Company and the American Water Purification Company. He was a brother of William E. McClintock, former chairman of the Massachusetts Highway Commission, and of James Y. McClintock, civil engineer, superintendent of highways for Monroe County, New York.

Henry L. Oestreich, senior assistant division engineer of the Public Service Commission of New York, died Aug. 13 in Atlantic City, N. J. Mr. Oestreich was born in New York City in 1870 and was graduated in civil engineering from New York University in 1888, since when he had been engaged in engineering in or near the metropolis. From 1889 to 1897 he was engaged in building railroad, highway and water-supply structures in New Jersey cities, and from 1897 to 1900 was transitman in the Department of Highways, Bronx Borough, New York. In 1900 he became an assistant in the employ of the New York City Rapid Transit Commission, leaving this service in 1907 to attach himself to the Public Service Commission, subsequently being principally engaged, until his death, with subway work. As senior assistant division engineer he supervised construction of the Fourth Avenue subway in Brooklyn and the third tracking and extension of elevated lines in that borough.

## Civil Service Examinations

**Chicago.**—An examination will be held Sept. 3 to secure eligibles for the position of illuminating engineer, at a salary of $1,920-$2,400 per annum. The local-residence requirement is waived. Application should be made to the Civil Service Commission, City Hall.

**Buffalo, N. Y.**—An examination will be held Aug. 28 to secure eligibles for the position of assistant civil enginer, at a salary of $1,600 per annum. Application should be made to the Civil Service Commission.

## Coming Meetings of National Engineering Societies

AMERICAN SOCIETY OF CIVIL ENGINEERS. Secretary, Charles Warren Hunt, 220 West 57th St., New York. Meets first and third Wednesday, except in July and August.

AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS. Secretary, C. C. Brown, Indianapolis, Ind. Next convention will be held Oct. 6 to 9, inclusive, at Hotel Somerset, Boston, Mass.

AMERICAN SOCIETY OF ENGINEERING CONTRACTORS. Secretary, J. R. Wemlinger, 11 Broadway, New York. Meets second Thursday in New York, except in July and August.

AMERICAN WATER WORKS ASSOCIATION. Secretary, J. M. Diven, 47 State St., Troy, N. Y.

AMERICAN SOCIETY FOR TESTING MATERIALS. Secretary, Prof. Edgar Marburg, University of Pennsylvania, Philadelphia.

SOCIETY FOR PROMOTION OF ENGINEERING EDUCATION. Secretary, Dean F. L. Bishop, Engineering Department, University of Pittsburgh, Pittsburgh.

CANADIAN SOCIETY OF CIVIL ENGINEERS. Secretary, Clement H. McLeod. Meets Thursdays, in Montreal, except during the months of May to September, inclusive.

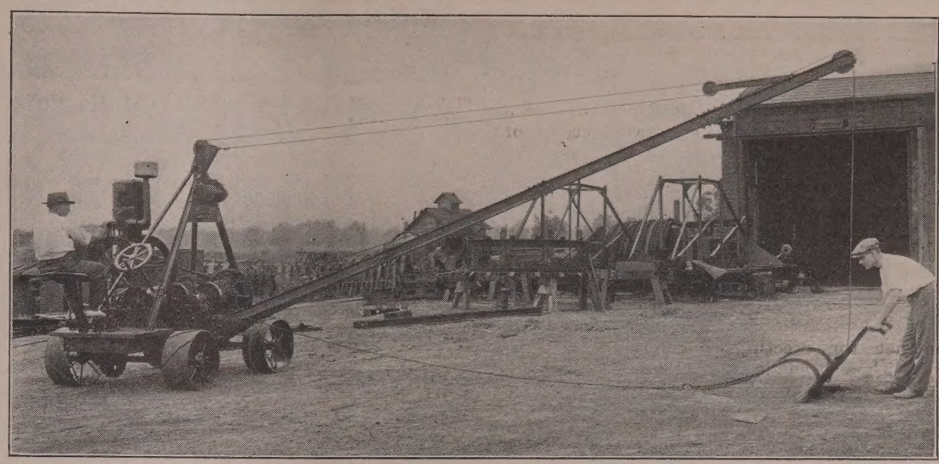
INTERNATIONAL IRRIGATION CONGRESS. Twenty-first session will be held Oct. 5 to 9, inclusive, at Calgary, Alberta, which is the address of the secretary.

## Self-Traction Backfilling Machine

A backfilling machine designed to eliminate the heavy cost of refilling trenches has recently been placed on the market. The traction speed of the engine is 1½ mi. per hour. The traction wheels are operated by a chain driven by a sprocket on the main machinery and the outfit can be moved forward and backward at the will of the operator, even in performing its backfilling functions. The backfiller is equipped with a hopper cooled engine of the vertical single-cylinder type. The machine weighs about 6000 lb., is 10 ft. 6 in. long, 7 ft. wide and 9 ft. high with its boom lowered. The operating levers are banked on one side of the machine in order that one man can control all levers, including the steering wheel. From three to eight trips per minute can be made with the scraper. No particular type of scraper is preferred. The usual board scraper or "Go Devil," or a Doane, Fresno or Slip scraper, can be provided.

The machine will travel parallel with the ditch on the opposite side of the trench from the spoil bank. The scraper is operated by a loading line and a hoisting line. When first putting the scraper in operation it is pulled out and raised by means of the hoisting line, so that it comes in contact with the spoil bank. The hoisting line is then slacked off and power applied to the loading line, which drags the scraper with its load toward the trench. The outfit is capable of handling a spoil bank delivered from a trench 20 ft. deep and 6 ft. wide.

When using the backfiller on smaller ditches and where obstructions are encountered, such as buildings, wire poles and the like, the boom can be shortened by removing one or more of the sections, which are bolted on in 6-ft. lengths. The machine is manufactured by the F. C. Austin Drainage Excavator Company, of Chicago, Il.



SELF-TRACTION BACKFILLER WITH LONG BOOM, SHOWN IN OPERATING POSITION

## Large American-Built Diesel Engine for Hawaiian Use

A halftone on this page illustrates what is called by the maker, the Lyons Atlas Company, of Indianapolis, the largest Diesel engine constructed in this country. It is of the vertical, four-cycle type, composed of four cylinders, with a 21-in. bore and a 30-in. stroke, and has a nominal rating of 600 brake-hp and a maximum capacity of 690 brake-hp. The Hawaiian Commercial & Sugar Company has bought the engine to supersede one of its steam plants used for irrigation purposes, and it will be direct-connected to a two-stage turbine pump of 15,000,000-gal. capacity working against a 200-ft. lift.

The Hawaiian company has stipulated that the engine must operate continuously 710 hr. out of 720 hr. per month at the rated load, using an oil similar to the only grade available on the Island—a 14 to 18-deg. asphaltum-base California fuel oil. Under the direction of the chief engineer of the purchasing company the engine was given a preliminary run of 48 hr., using an Eastern paraffin-base fuel, after which all parts connected with the combustion chambers were inspected in order to determine a basis for comparison of the effects of the two fuels. It was then subjected to a 144-hr. run at full load with California oil. When, at the completion of the run, the combustion chambers were again examined, no evidence of deposit on the heads, valves or pistons was found, and the engine was accepted. It will be taken through the Panama Canal.

## Metallic Tape "Threader"

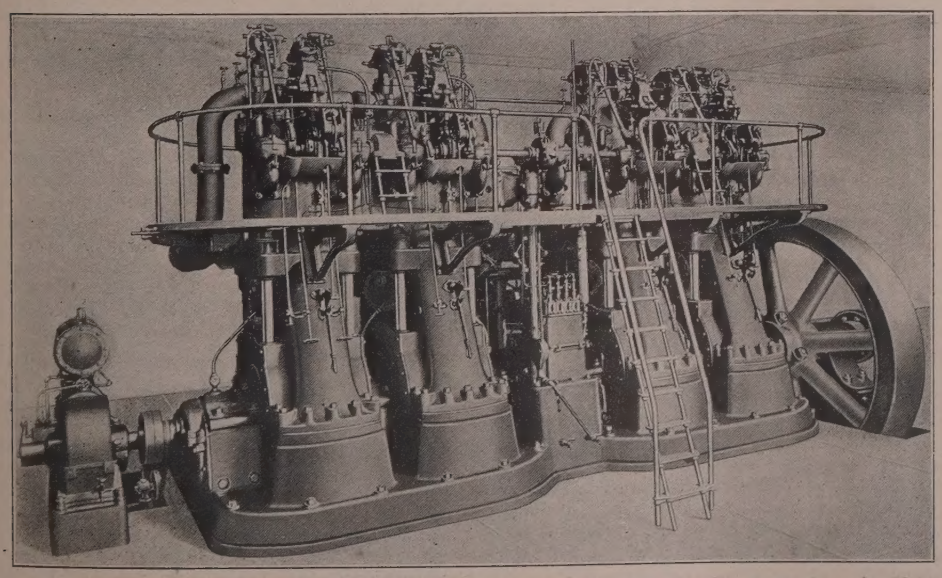
A patented measuring tape attachment known as a "threader" has just been placed on the market by the Lufkin Rule Company, whose factories are at Saginaw, Mich. The device is a loop-and-stud arrangement, by means of which the tape, though securely fastened to the winding drum of the case when in use, can yet be readily detached from it and a new tape as readily attached, no manipulation of the case, case screw or drum being required.

This invention was prompted by the realization that woven tapes are sometimes torn or through long use become soiled and worn. The case, not receiving the same hard use as the tape line, usually outwears it, and as it represents approximately half the value of the outfit, it is of considerable importance that it be a simple matter for any one to insert a new tape in the old case as often as necessary and thus get the fullest measure of use out of both. Metallic tapes without cases are quite generally stocked by hardware houses, and can easily be obtained. The device is patented and will be furnished with standard tapes without charge.

## A Novel Combination Engine

The new power plant being built by the Ford Motor Company at Highland Park, Detroit, will be a combination gas and steam plant, equipped with steam boilers, gas producers and "regenerators" as a method for producing medium for developing power. The Hooven, Owens, Rentschler Company, of Hamilton, Ohio, is building the prime movers, which combine the use of steam and gas and have been given the name of "gasteam" engines. There will be four units, each consisting of a two-cylinder gas engine arranged in tandem and a tandem compound condensing steam engine. These two engines of different types will be connected to one shaft similar to the arrangement employed in a cross-compound steam engine. Electric power will be developed by a direct-connected generator of 3750-kw capacity. Each engine will be capable of developing 6000 brake-hp.

With the combination type of unit, the steam engine is not supposed to be put in service unless there is a half load or more; hence the gas side will always be fully loaded. No attempt has been made to govern the gas side, other than in case of overspeeding. The steam side will do all the governing and take care of all the load fluctuations. In case of trouble on the gas side, the steam side can pull the entire load with a late steam cutoff.



600-HORSEPOWER DIESEL ENGINE BUILT IN INDIANAPOLIS FOR HAWAIIAN PURCHASER

## Chart for Designing Steel and Wood Beams

A new graph for designing steel or wood beams has been devised by Charles W. Schubert, engineer of construction in the Department of Buildings, Cleveland. The chart is built upon a well-known principle. Several elements are plotted on parallel scales having the relation that, for the assumed unit stresses and other conditions, a straight line through any two points representing factors in a given problem determines a third factor. The graduations on Mr. Schubert's chart show unit fiber stress, total uniform load and loads per square foot and per linear foot, width and depth of beams, length of span, bending and resisting moments, and section moduli for steel shapes—angles, I-beams, channels, etc. Its use is simplified by the addition of examples, both on the chart and on an accompanying sheet of directions.

These directions explain that the position of the steel shapes is based in a unit stress of 16,000 lb. per square inch and call attention to the necessity for qualifications in the graph's use for special cases.

## Very Large Vertical Triple-Expansion Pump

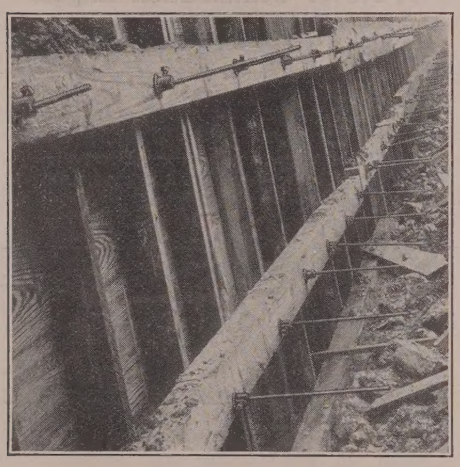
A new high-power water pump, with the unusual capacity of 30,000,000 gal. a day, built by the Allis-Chalmers Company, was recently installed at the Broadway pumping station of the Toledo Water Works, Toledo, Ohio. The pump is of vertical triple-expansion design, and the cost of operation is estimated as one-sixth of the cost of maintenance of the original 5,000,000-gal. pumps formerly used. It will increase the water providing capacity of the Broadway station to 72,000,000 gal. daily. The cost was $83,000.

All of the cylinders, heaters and steam lines connected with this giant pump are insulated with J-M Coverings, furnished by the H. W. Johns-Manville Company, of New York.

## Form Clamp for Concrete Work

A form clamp designed to eliminate the use of threaded rods, nuts, washers, blocks, wedges, wires and other special devices in tying concrete forms has recently been placed on the market.

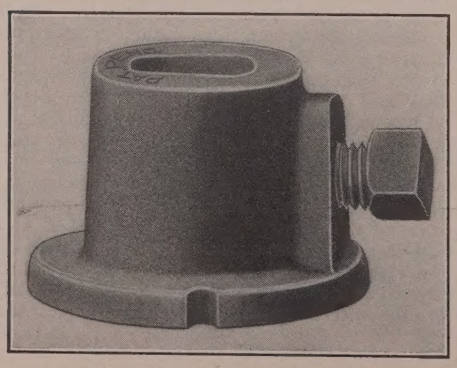
The clamp is a collar with a set screw, an oval opening and a shoulder on the inside of



CLAMPS IN USE ON HEAVY FORMS

the opening. It is slipped over a rod and when the set screw is tightened the rod is kinked and wedged so tightly that it will break before it will pull out. To prevent the form from spreading apart, and as a means of exerting pressure, a small hollow screwjack, called the tightening wrench, has been designed. After the clamp is slipped on the rod the tightening wrench is slipped on and locked there by a cam. When this is done, by turning the handle, any desired pressure may be obtained against the form.

To remove the forms the set screws in the clamps are loosened. With a small wrecking bar the forms can be easily removed over the straight projecting ends. It is then necessary to cut the wires or rods, making a total of two cuts as compared to about ten with the old method. The clamp is manufactured by the Universal Form Clamp Company, of Chicago.



COLLAR-AND-SET-SCREW FORM CLAMP

## Philadelphia Company Popularizing Automatic-Sprinkler Installations

In an effort to popularize the use of automatic sprinklers the Merchant & Evans Company, of Philadelphia, is campaigning among the manufacturers of the country. It is stated that heretofore virtually all approved automatic sprinkling apparatus have been installed directly by a small group of makers, or by their restricted circle of agents. The company now seeking to establish an independent field offers to sell purchasers direct at reduced cost, to install at a reasonable profit, design systems at standard engineering prices, or to sell only its own improved heads, making a liberal allowance for old heads.

A view accompanying this note illustrates the sprinkler head made by the Merchant & Evans Company, which states that it has passed rigid tests at Boston and Chicago laboratories and has been approved by the insurance companies.

## Business Notes

**John E. Ryan**, of New Orleans, a member of a levee-building contracting firm, died Aug. 4 at his home.

**James J. Dolan**, a member of the firm of Dolan Brothers, road-building contractors, of Lexington, Ky., died Aug. 4 at his home in Lexington.

**John Simmons Company**, of New York City, has taken over the manufacturing and selling rights to the "Kebec" boiler circulator, formerly handled by the Klein Boiler Circulator Company, also of New York. The company which has assumed control has created a new department, under the direction of Paul M. Klein.

**The Ceresit Waterproofing Company**, of Chicago, has called attention to a misstatement in a note in the pages of the Engineering Record of Aug. 8, concerning the building of the "Temple of Aquarius" at the Panama-Pacific Exposition. The company's product should have been referred to as a paste, not a powder.

**William Ainsworth & Sons**, of Denver, manufacturers of precision engineering instruments and balances, have placed on the market a new line of high-grade surveying instruments. The apparatus are of simple, durable construction, the principal parts being made of bronze alloys pinioned with bronze screws. Provision for the addition of auxiliary attachments has been made.

## Trade Publications

**The Muncie Oil Engine Company**, of Muncie, Ind., is distributing as Catalog 21 a 65-page illustrated book containing description of the Muncie oil engine.

**The Mesta Machine Company**, of Pittsburgh, has issued a folder describing air compressors and vacuum pumps. It is illustrated with photographs, sketches and diagrams.

**The Pawling & Harnischfeger Company**, of Milwaukee, has issued as Bulletin 8 an illustrated folder describing the "P & H" power traction tamper. Specifications are included.

**The Dake Machinery Company**, of Grand Haven, Mich., is distributing copies of a small illustrated publication describing engines, steering gears, hoisting engines, and machine parts.

**The Stow Manufacturing Company**, of Binghamton, N. Y., has published Catalog 14, a 96-page catalog of portable electric tools. This is a very complete list of the company's products.

**The Lutweiler Pumping Engine Company**, of Rochester, N. Y., has issued a booklet explaining the Lutweiler system of non-pulsating triplex pumps. Tables, diagrams and illustrations are used to advantage.

**The Mesker Brothers Iron Company**, of St. Louis, is distributing copies of a catalog of its products—steel sash, metal windows, fireproof stairs, doors, column guards and corridor partitions. The booklet is illustrated and contains 20 pages.

**The Stroudsburg Engine Works**, of Stroudsburg, Pa., has published Catalog 9, describing many types of steam and electric hoisting engines and derricks. The book is illustrated and contains 50 pages. This company has also issued a repair price list.

**The Kindling Machinery Company**, of Milwaukee, has published a 40-page, illustrated book describing squeegees and sand-spreaders. Considerable attention is given to tests made of street-cleaning equipment in New York City and in Washington, D. C.

**The United States Incinerator Company**, of Buffalo, N. Y., has issued a 16-page publication discussing the application of its equipment to the sanitary disposal of garbage and waste. The book is illustrated and deals entirely with waste destroyers for domestic use.

**The Ruggles Machine Company**, of Poultney, Vt., has published a reference book on heat engines, constituting the sixth catalog of the company's gas and gasoline engines. Attention is also given to the operation of ensilage cutters. Descriptive tables are also included in the book, which is illustrated and contains 92 pages.

**The Pratt & Cady Company**, of Hartford, Conn., has recently issued eight catalogs, the subjects being asbestos-packed cocks, boiler room appliances and safety devices, cast steel valves for superheated steam; water gate valves, indicator posts, floor spans and fire hydrants; renewable disc valves, renewable seat gate valves, swing check valves and back-pressure valves, and brass and iron body gate valves.

**David Lupton's Sons Company**, of Philadelphia, has issued a large 84-page pamphlet profusely illustrated with pictures of installations of their products, with details and descriptions of standard and special types of steel sash, partitions, tube doors and jambs, Pond continuous sash, Pond trusses, long span saw-tooth trusses, Pond sash operating devices, rolled steel skylights, and sheet metal fireproof windows.

**The Clyde Iron Works**, of Duluth, Minn., has invaded at once the typographical and house-organ advertising fields, with Vol. 1, No. 1, of "The Clyde Diamond," a courageous imitator, in a fashion, of Elbert Hubbard's mouthpiece. The text is confined to whimsical philosophizing in a general vein, which the editor justifies thus in his preface: "We cheerfully promise that—excepting the advertising—it (the booklet) will contain no useful information whatever."

**The B. F. Sturtevant Company**, of Boston, has shown originality in a recent catalog, "How the Chief Engineer Was Convinced." By means of a plausible dialogue between the chief engineer of a power company and a salesman seeking to sell an order of steam turbines, the reader is led through the shop of the company, imbibing the while a straightforward colloquial argument in favor of many of the features of the turbine. The catalog is well illustrated and contains 24 pages.

**The J. G. White Management Corporation**, one of the subsidiaries of J. G. White & Company, Inc., has issued an attractive booklet whose title, "The Management of Public Service," readily indicates its nature. The intelligent tone of the text may be further suggested by naming the sub-heads—security of investment, development, competition, economical operation, maintenance of physical property, accounting, finance, engineering, purchasing, and the firm's relation to its clients. A directory of the staff of the allied companies and of some of the clients of the firm is included.

# Contracting News

## Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

### WATERWORKS.

*Items Arranged Geographically*

**West Pownal, Me.**—Bids desired until Sept. 1 by State Bd. Hospital Trus., West Pownal, for constructing concrete dam, filter, pumping station, pumps, water main, etc. Arthur B. Fels, Engr., 60 Union St., Portland.

**Williamstown, Vt.**—This city contemplating installation of water works and preliminary surveys have been made by Fred S. Dudley, of Randolph.

**Fall River, Mass.**—Plans reported completed by Prof. H. K. Barrows, of Mass. Inst. of Technology, for constructing conduits along west shore of North Watuppa Pond. J. E. Borden, City Engr.

**Providence, R. I.**—Prof. Wm. P. Mason, head of the department of chemistry at the Rensselaer Polytechnic Institute, New York, and X. H. Goodnow, Ch. Engr. Massachusetts State Board of Health, have been engaged as experts to report on the proposed Scituate source for an increase water supply for Providence by the Special City Council Com.

**Hopewell, N. J.**—Citizens voted $10,000 bonds for water mains and an additional water supply.

**Harrisburg, Pa.**—Plans have been completed for laying 16-in. water mains in Front and Market Sts.

**Philadelphia, Pa.**—Bids desired until until Aug. 25 by Department of Supplies for furnishing c. i. water pipe, etc.

Bids desired until Aug. 28 by Director Pub. Wks., for work as follows: Pump castings, Shawmut Pumping Station; alterations to Belmont filters; alterations to Belmont boiler house; coal and ash handling machinery, Belmont Pumping Station; wrought iron fence, George's Hill basin; shelter house and skylights, Queen Lane filters.

**Punxsutawney, Pa.**—Council considering construction of waterworks. Address Thos. Hilliard, Punxsutawney.

**Clinton, N. C.**—Bids desired until Sept. 15 by Mayor and Comrs. for constructing water works, advertised in Engineering Record.

★**Panama City, Fla.**—Contract awarded for extending present water system to Walton & Wagner, Atlanta, Ga., at $12,000. F. A. Black, City Clk.

**Bay Minette, Ala.**—Bids reported desired until Sept. 30 for constructing water works, sewers and electric light plant.

**Friendship, Tenn.**—See "Power Plants."

**Marysville, Tenn.**—Election will probably be held this fall to vote on issuing $55,000 bonds for constructing municipal water works. Engineers, R. C. Huston & Co., Memphis. Wm. A. McTeer, City Recorder.

**Providence, Ky.**—Bids reported desired until Aug. 24 for 20-year franchise to install water works system. W. B. Snow, Mayor.

★**Cleveland, O.**—Contracts awarded to Babcock & Wilcox Co., for a 500-hp. Stirling type boiler, and one chain grate stoker complete with necessary operating machinery, brick work and setting, at $7,494; and to Gibson & Price Co., Cleveland, for lead pipe, at $5,245.

**Continental, O.**—Bids reported desired until Aug. 29 by Village Council for extending and enlarging water works.

**Coshocton, O.**—City Council adopted resolution looking to construction of a new water reservoir with a capacity of 5,000,000 gals.

**Middletown, O.**—Pollard & Ellms, Cincinnati, are investigating the well supply.

**Steubenville, O.**—An appropriation of $40,000 has been asked for lining and covering reservoirs. T. M. Kennedy, City Clk.

**Xenia, O.**—Pollard & Ellms, Cincinnati, engaged by Xenia Water Co. to investigate a new supply. It is likely new source some 3 miles from city will be recommended.

**Huntington, Ind.**—Bids desired until Aug. 31 by Bd. Pub. Wks. for municipal water and light plant, advertised in Engineering Record. Chas. Brossman, Consulting Engr., Merchants Bank Bldg., Indianapolis.

**Sears, Ill.**—Village Trustees reported to have decided to construct water works.

★**Des Moines, Ia.**—Contract awarded by County Supervisors for constructing water works for County Farm to Des Moines Bridge & Iron Co., Des Moines, at $6,190.

★**Dubuque, Ia.**—Contract for construction of reservoir on Kelly's Bluff awarded to Midwest Constr. Co., Kansas City, Mo., at $66,000 (bids opened July 30). Engineer, Dabney H. Maury, Chicago, Ill.

**Morning Sun, Ia.**—Citizens voted Aug. 10 to construct water works.

**Rockwell City, Ia.**—Citizens voted $15,000 bonds for extension of water main system.

**Sioux Rapids, Ia.**—Bids desired until Sept. 2 by City Clk. for constructing 75,000 gal. steel water tank and tower with foundation. Plans at office M. I. Evinger, Ames, Ia.

**Taylors Falls, Minn.**—Bids desired until Aug. 24 by Village Clerk for constructing approximately 2,488 ft. 4-in. water main.

★**Virginia, Minn.** — Contract awarded Aug. 10 for constructing 1,000,000 gal. reinforced concrete reservoir to Risberg & Marwick, of Virginia, at $17,798. Other bids: F. P. Tims, Duluth, $23,419; Lawrence & McCann, Eveleth, $27,636; C. C. Buller, Virginia, $22,231; Ward & Weighton, Sioux City, Ia., $21,512. J. W. Murphy, Secy. Water & Light Com.

★**Alton, Kan.**—Contract awarded Aug. 6 for constructing water works from plans of Rollins & Co., Kansas City, Mo., to Commercial Constr. Co., Kansas City, Mo., at $27,600. Other bids: Readecker & Connor, Kansas City, Mo., $28,000; Alamo Engine & Supply Co., Omaha, Neb., $27,800; Lawrence Eng. & Constr. Co., Lawrence, $28,100; T. C. Brooks & Sons Co., Jackson, Mich., $27,750.

**Lawrence, Kan.**—This city is now making surveys to locate water supply and determine cost of an entire new plant and supply: cost $350,000. E. H. Dunnine, City Engr.

**Troy, Kan.**—Henrici, Kent & Lowry, Kansas City, Mo., preparing estimates for water supplies for city water system; supply will probably be taken from deep wells.

**Wellington, Kan.**—Bids desired by City Comrs. until Sept. 8 for furnishing materials and constructing approximately 6000 lin. ft. 10-in., 1000 lin. ft. 12-in. and 60,000 lin. ft. 16-in., 18-in. or 20-in. c.-i. Matheson joint steel and wood pipe, including necessary valves and specials and construction of a 500,000-gal. elevated tank and tower 100 ft. high. Benham Eng. Co., Engrs., American National Bank Bldg., Oklahoma City, Okla.

**Wahpeton, N. D.**—Bids desired until Sept. 8 by City Auditor for constructing a mechanical gravity filter plant of 1,000,000 gals. capacity. L. P. Wolff, Engr., Germania Life Bldg., St. Paul, Minn.

★**Schenectady, N. Y.**—Bids opened Aug 5 by Bd. Contract and Supply for a 20,000,000-gal. covered reservoir on Bevis Hill in Niskayuna, near easterly boundary of city, as follows: (a) Sutton & Corson Co., Ocean City, N. J., $222,874 (awarded contract); (b) State Highways Constr. Co., Beacon, $240,304; (c) John J. Hart, Peekskill, $246,522; (d) Shear & Wilson Corp., Schenectady, $247,809; Barzaghi-Vought Co., New York, $248,200; Browne & Lowe Co., Schenectady, $248,399; Sewage Disposal & Water Plant Co., Inc., Schenectady, $251,744; Eon Eng. & Contr. Co., Long Island City, $257,030; J. F. Cogan Co., New York, $273,185; Mason-Hilton Co., Merril-Ruckgaber Co., New York, $287,655; John W. Heller, Newark, N. J., $292,590; Walsh Constr. Co., Davenport, Ia., $293,679; Buffalo Dredging Co., Buffalo, $293,684; U. S. Realty & Improvement Co., New York, $300,330; Chas. Ippolito, Schenectady, $356,877.

(C. C. Williams, Supt. Bureau of Water.)

Unit prices of 4 lowest bids, (a) (b) (c) (d):

| | *(a) | (b) | (c) | (d) |
|---|---|---|---|---|
| Engineer's estimate (lump sum) | $880.00 | $200.00 | $500.00 | $175.00 |
| 3,200 lin. ft. fence | 1.14 | 1.00 | 1.25 | 1.12 |
| 72,500 cu. yds. excav | .28 | .30 | .42 | .56 |
| 15,000 cu. yds. rolled embankment | .62 | .70 | .15 | .30 |
| 12,000 cu. yds. plain concrete | 6.00 | 6.00 | 7.50 | 6.98 |
| 5,500 cu. yds. reinforced concrete | 12.00 | 12.00 | 9.00 | 10.00 |
| 1,500,000 lbs. steel reinforcement | .02 | .0351 | .025 | .01875 |
| 7,600 lin. ft. 4-in. drain tile | .22 | .15 | .25 | .30 |
| 1,400 lin. ft. 8-in. vit. tile | .30 | .30 | .40 | .32 |
| 250 lin. ft. 30-in. vitr. tile | 4.00 | 2.50 | 4.25 | 3.75 |
| 15,100 sq. yds. waterproofing, Class A | .08 | .04 | .50 | .50 |
| 15,100 sq. yds. waterproofing, Class B | .41 | .15 | .75 | .75 |
| 9 manholes | 164.15 | 50.00 | 75.00 | 200.00 |
| Gate house (lump sum) | 7,892.50 | 8,000.00 | 8,000.00 | 6,475.00 |
| 500 lin. ft. pav. gutter | 1.77 | 1.00 | 2.50 | 2.50 |

**Parker, S. D.**—Bids desired until Sept. 4 by City Auditor for furnishing material and constructing additions to water works system and new electric light plant.

★**Winner, S. D.**—Contract reported awarded by City Council for about 42,000 ft. 8-in., and 5000 ft. 4-in. wood pipe, 4-in. hydrants, etc., to Intermountain Bridge & Constr. Co., Tecumseh, Neb., at $28,478.

**Helena, Mont.**—The purchase of the waters of Oro Fino creek will be recommended to Council by the Water Com. (C. E. Kretlow, Chmn.), and this will necessitate the construction of a reservoir.

**Butler, Mo.**—See "Power Plants."

**Chillicothe, Mo.** — Appraisals being made of old plant and plans made for improving same by Harper & Stiles, Consulting Engrs., Grand Ave. Temple, Kansas City.

**Willow Springs, Mo.**—Bids desired until Sept. for 3,000 ft. 6 in. and 6,500 ft. 4 in. standard c. i. water pipe. H. M. Shipley, Mayor.

**Ashdown, Ark.** — Contract for water works and sewerage system will probably be let in the next 60 days.

**Aransas Pass, Tex.**—Citizens voted Aug. 11 to issue $5,000 bonds to extend water mains.

**Kerens, Tex.**—Bids reported desired until Aug. 25, for $21,500 water works improvement bonds. J. M. Daniel, Mayor.

**Cordell, Okla.**—Commercial Club having investigation made as to feasibility of gravity water supply. Probable cost, $75,000. Harper & Stiles, Consulting Engrs., Grand Ave. Temple, Kansas City, Mo.

**Pe Ell, Wash.**—City Council considering construction of water works.

**Port Angeles, Wash.**—It is stated that the Com. of City Council appointed to investigate proposition of constructing water pipe from Dry Creek here estimate that it will be necessary to run 3500 ft. 2-in. and 11,000 ft. of 1-in. line.

**Seattle, Wash.**—Lowest bid opened by Bd. of Works Aug. 7 for supply of 10,000 water meters for Water Dept. reported submitted by Northwestern Supply Co., at $75,000.

**Tacoma, Wash.** — Metropolitan Park Board reported considering construction of water system for Point Defiance Park.

**Nehalem, Ore.**—See "Power Plants."

**Glendale, Cal.**—J. C. Shea, City Clk., writes probably some new water machinery will be added to present pumping plant; also a development of gravity water. Nothing definite decided on yet.

**San Diego, Cal.**—Local press reports state plans for a 20-unit filtration plant to be located at Lower Otay dam have been practically prepared by the Water Dept., it will have a maximum capacity of 12,000,000 gals. daily.

★Contract reported awarded Aug. 5 for construction of first section of conduit between Barrett and Monena to D. L. Bissel, 16,700 ft. of conduit, at $40,978.

**St. Vital, Man.**—Bids desired until Aug. 25 by Secretary Comrs. Transcontinental Ry., Ottawa, Ont., for furnishing and laying complete, with elbows, special castings, etc., 12-in. c. i. pipe, from pump house at St. Vital to reservoir at Transcona, approximately 31,100 ft.

**Canora, Sask.**—Bids desired until 8 p. m. Aug. 25 by Secretary-Treasurer for laying c.-i. water mains, constructing pump house, steel standpipe, concrete foundation and housing standpipe; furnishing c.-i. pipe and specials, fire hydrants and valves; furnishing and erecting pumping machinery; furnishing material and constructing suction well. Chipman & Powers, Engrs., Toronto, Ont.

### SEWERAGE AND SEWAGE DISPOSAL.

*Items Arranged Geographically*

★**Boston, Mass.** — Contract reported awarded to Anthony Cefalo for construction of sewer in Rowe St., at $7,432.

Bids desired until Aug. 24 by Commissioner Pub. Wks., Boston, for constructing pipe sewers and drain in Station St., Roxbury; also until Aug. 25 for sewers in Barbara, Jewett, Folsom and other streets, West Roxbury.

**Fall River, Mass.**—Bids desired until Sept. 4 by Reservoir Comn. at the office of the City Aud. for constructing an intercepting drain near west shore of Watuppa Ponds, advertised in Engineering Record. J. Edgar Borden, City Engr. H. K. Barrows, Consulting Engr., 6 Beacon St., Boston.

**Wallingford, Conn.**—Bids desired until Sept. 8 by Warden and Court of Burgesses for laying about 3200 ft. vitri. pipe sewers 18 to 24 in., also same time for 1st quality vitri. pipe tile, advertised in Engineering Record.

**Gates, N. Y.**—Bids desired until Aug. 28 by M. J. Magin, Clerk, Town of Gates, at office of W. R. Storey, Engr., Ellwanger & Barry Bldg., Rochester, for constructing vitr. pipe sewer in Emerson and McNaughton Sts., about 3400 ft.

**New York, N. Y.**—Bids desired until Aug. 26 by President Boro. Manhattan for constructing sewers in E. 76th, W. 24th, E. 93rd and W. 161st Sts. Total security, $14,500.

★**Oneonta, N. Y.**—Contract awarded Aug. 1 for constructing storm and sanitary sewers to Geo. Serofini, Binghamton, at $4,673. S. H. Close, City Clk.

★**Rochester, N. Y.**—Contracts reported awarded by Bd. Contract & Supply to John Petrossi for sewers as follows: In Field St. and Thurston Rd., at $17,491; in Chili Ave., at $3,907, and in Genesee Park Boule. and Brooks Ave., at $4,264.

**Solvay, N. Y.**—Bids desired Aug. 24 for the purchase of bonds to be used for constructing 8000 ft. 6-in. pipe sewers. E. M. Hall, Village Clk.

★**Syracuse, N. Y.**—Contract awarded to Samuel Bonn, Syracuse, for 1-mile 8 to 27-in. sewers on E. Seneca St. and to Antonio Minda, Syracuse, for about 2,000 ft. 8-in. vitr. tile sewers on E. Bridge and E. Cayuga Sts.

**Paterson, N. J.**—Bids desired until Sept. 1 by Bd. Pub. Wks. for constructing sewers in portions of 10th, Buffalo and Murray Aves., N. 2d, E. 15th, E. 23d and several other streets. H. J. Harder, City Engr.

**West Orange, N. J.**—Lowest bid for construction in Northfield Ave. submitted to Roads Com. of Bd. of Freeholders by J. T. Boylan, $6,448.

★**Carbondale, Pa.**—Contract reported awarded by Council for the West Carbondale sewer to Mathias Stipp, Scranton, at $1.70 per lin. ft.; total cost $50,000.

**North Wales, Pa.**—Bids desired until Sept. 5 by Borough Council for constructing a system of sewers and sewage disposal plant (Contract A) and house connections (Contract B), advertised in Engineering Record. Remington & Vosburg, Consulting Engrs., 601 Market St., Camden, N. J.

**Philadelphia, Pa.**—Bids desired until Aug. 26 by Dept. Pub. Wks. for main and branch sewers, inlets, bridgework and test load platforms.

**Reading, Pa.**—City Council reported considering issue of $50,000 bonds to construct additional house sewage filtration bed at Fritz's Island.

**Reading, Pa.**—Council reported considering construction of additional house sewerage filtration beds at Fritz Island: cost $50,000.

★**York, Pa.**—The detail bid of General Supply & Constr. Co., York, successful bidder for the outfall sewer (to be of brick) bids opened July 31, as follows: 5260 ft. 60-in. brick sewer, $9.45; 1630 ft. 42-in. $6.50; 968 ft. 39-in., $5.65; 21 manholes 6 ft. deep, $30; 7800 ft. 4-in. tile, 15 cts.; 6000 cu. yds. rock, $2.50; siphon (lump sum), $3,684; 1000 ft. piling, 5 cts.; total $86,305.

**Atlanta, Ga.**—It is proposed to construct a sewer to extend from city limits of Oakland City to connect with McDaniel St. Sewer. Cost $8,000.

**Leesburg, Fla.**—Surveys being made for a sewer system. L. M. Johnson, City Clk.

★**Anniston, Ala.**—Contract awarded Aug. 13 to L. O. Scruggs, Birmingham, to construct sanitary sewers at an estimated cost of $8,000. Work includes 15,000 ft. 8-in. pipe 4 to 10 ft. deep, 2000 ft. 6-in. pipe 4 to 8 in. deep, 40 manholes and 800 Y's.

**Bay Minette, Ala.**—See "Water Works."

**Baton Rouge, La.**—Two lowest bids opened Aug. 1 by Mayor and Common Council for constructing about 26,000 ft. vitr. pipe sewers, 6 to 12 in., together with necessary c. i. pipes, flush tanks, etc., submitted as follows: E. M. Sheflow, Houston, Tex., $19,700; A. L. Patterson, New Orleans, $29,000.

**Marion, O.**—Council adopted resolution providing for construction of a trunk line sewer and drain from Church St. sewer, to cost $21,041.

**Sandusky, O.**—Lowest bid opened Aug. 13 by City Council for construction of 3,000 ft. intercepting sewer of south end district submitted by J. C. Carlin Co., Toledo, at $19,555 for brick, $28,280 for concrete and $32,530 for cast iron, on first section and $40,331 for brick, $38,208 for concrete and $77,813 for cast iron on second section.

★*Items marked thus give the names of parties awarded contracts.*

**Cleveland, O.**—Following are unit prices of 4 lowest bids opened Aug. 13 by Comrs. of Purchase & Supplies, 513 City Hall, for Contract 2, excavating, transporting and disposing of all material necessary to prepare present site for construction of permanent works of South Side Sewage Treatment Work—(1) Chas. Fath & Co., Cleveland; (2) John F. Casey, Pittsburgh, Pa.; (3) Fred R. Jones Co., Chicago, Ill.; (4) Connelly Constr. Co., Cleveland:

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Engineer's office, complete | $1,000.00 | $1,500.00 | $1,500.00 | $1,500.00 |
| Bridge, complete | 900.00 | 750.00 | 800.00 | 400.00 |
| 900 lin. ft. surface drain, Sect. 1 | .30 | .50 | .40 | .50 |
| 2,000 lin. ft. surface drain, Sect. 2 | .40 | .75 | .45 | .75 |
| Furnish. and Plac. Vitr. Pipe: | | | | |
| 750 lin. ft. 15-in | .70 | 2.00 | .60 | 1.65 |
| 700 lin. ft. 10-in | .45 | 1.50 | .55 | 1.25 |
| 2,400 lin. ft. 6-in | .30 | .75 | .20 | .50 |
| 2 masonry manholes | 50.00 | 100.00 | 50.00 | 40.00 |
| Excav., Transport. and Dispos. of Material. | | | | |
| 316,000 cu. yds. | .25 | .24½ | .27½ | .26 |
| 316,000 cu. yds. | .25 | .24½ | .27½ | .27 |
| 13,000 cu. yds. | .27 | .50 | .27½ | .40 |
| 1,800 tons stone riprap | 2.50 | 2.00 | 1.80 | 2.25 |
| 120 lin. ft. additional wood piling | .40 | .75 | .75 | 1.00 |
| Working days Div. A ($20 per day) | 120.00 | 160.00 | 135.00 | 150.00 |
| Working days Div. B ($20 per day) | 130.00 | 160.00 | 135.00 | 180.00 |
| Totals Div. A | 86,078.00 | 89,460.00 | 94,665.00 | 92,522.00 |
| Totals Div. B | 94,288.00 | 96,360.00 | 101,480.00 | 105,532.00 |

**Zanesville, O.**—Bids reported desired until Aug. 24 by Director Pub. Service, for constructing storm and sanitary sewers in Lake and Jewett Drives.

**Anna, Ill.**—Bids desired until Aug. 24 by State Bd. of Administration, Springfield, for constructing sewage settling tank at Anna State Hospital, Anna.

★**Racine, Wis.**—Contract for constructing public sewers in Augusta, Wolff, Geneva Sts. and Layard and Douglas Aves. awarded Aug. 15 to Harding Co., Racine, at the following bid: Brick sewers, 1320 lin. ft. 66-in. 2-ring, $11.35; 2270 ft. 60-in. 2-ring, $9.50; 300 ft. 48-in., $6.35; 908 ft. 30-in., $2.55; 600 ft. 27-in., $2.60; 330 ft. 24-in., $2.25. Vitrified pipe sewers: 941 lin. ft. 21-in. 2-ring, $2.25; 310 ft. 18-in., $1.65; 640 ft. 15-in., $1.20; 1225 ft. 12-in., 90 cts.; 1342 ft. 8-in., 80 cts. Segment block, 1315 lin. ft. 42-in. 2-ring brick sewer, $5.20; 2559 ft. 39-in., $5.05; 1301 ft. 36-in., $4.72; 44 manholes, ea. $58; 2 lampholes, ea. $16; 87 catchbasins, ea. $40; outfall (lump sum), $8,500; total, $89,108. Hardin & Co. were also awarded contract for sewer in 12th St. and Washington Ave., at $58,088, consisting of 78 and 75-in. brick sewer, manholes and catchbasins and concrete outfall. Wm. Rodgers, Secy. Bd. Pub. Wks.

**Algona, Ia.**—Bids desired until 7 p. m. Aug. 24 by City Clerk, constructing about 3230 ft. 6 and 8-in. vitr. salt-glazed clay sewers in portions of several streets. Theo. S. DeLay, Eng., Creston.

★**Burlington, Ia.** — Contract awarded Aug. 15 for 2200 ft. 8 x 8 ft. concrete flood channel, to Young & Buescher, 700 S. 7th St., Burlington, at $34.60 per lin. ft. Other bids (per lin. ft.): Burlington Constr. Co., Burlington, Ia., $35.50; Nash-Dowdle Co., Chicago, Ill., $36.75; O'Hagan & Lake, Chicago, Ill., $35.50; Western Constr. Co., Iowa City, Ia., $36.90; Inter-Mountain Bridge & Constr. Co., Tecumseh, Neb., $41.55; D. J. Ryan Constr. Co., Davenport, Ia., $70; Gaffin & Gehri, Fond du Lac, Wis., $40,95. H. G. Vollmer, City Engr.

**Council Bluffs, Ia.**—Bids desired until Aug. 31 by City Clerk for constructing sewers in 3 alleys, requiring 17,765 ft 6 to 12 in. vitr. pipe sewer, etc.

★**Sioux City, Ia.**—Contract for constructing Morningside sewer reported awarded to Black Hawk Constr. Co., Waterloo, at 68½ cts. per ft.; total $22,000.

**Hutchinson, Kan.**—An ordinance is being considered by Council creating 3 new sub-main sewer districts.

**Polson, Mont.**—Walter E. Child, Secy. Chamber of Commerce, writes sewer system will not be constructed; bond election cancelled.

★**St. Louis, Mo.**—Contracts awarded by Bd. Pub. Improv. Aug. 11 for constructing sewers as follows: S. Gravios Ave. sewer No. 1, also Stein St. joint sewer, to Hogan Constr. Co., at $19,195 and $50,913, respectively; Floriant Ave. public sewer, to Wm. F. Riley Constr. Co., $12,668; and Clifton Heights sewer No. 1, Kamp Eng. & Constr. Co., $13,695.

**Ashdown, Ark.**—See "Water Works."

**Henderson, Tex.**—This city desires to grant a franchise for a sewer system. Address W. E. DeLamar, Asst. City Secy.

**San Antonio, Tex.**—Bids desired until Sept. 7 by City Clerk for constructing sanitary sewers, advertised in Engineering Record.

Bids desired until Sept. 21 by City Clerk for constructing sanitary sewers, advertised in Engineering Record.

**Van Alstyne, Tex.**—Mr. Perkins, of Mckinney, reported to have petitioned for franchise for sewer system.

**Bremeton, Wash.**—Bids desired Aug. 24 for 1556 ft. 12-in., 2705 ft. 8-in., 2720 ft. 10-in. sewers, 10,000 cu. yds. grading, 300 Y's, 16 manholes, etc. Fred S. Hathaway, City Engr.

**Richmond, Cal.**—Plans reported completed by City Engineer for constructing sewer system for western part of city; estimated cost $50,000.

**San Diego, Cal.**—Plans are reported as being prepared by Sewer Engineer Lockwood for a sewer system for the eastern slope of Point Loma.

**Vancouver, B. C.**—Board of Works reported to have approved construction of sewers in 8th Ward; cost $50,000.

## BRIDGES.

*Items Arranged Geographically*

**Albany, N. Y.**—Bids were opened as follows Aug. 11 by State Supt. Pub. Wks. for bridge over Mohawk River, between Glenville and Rotterdam: (a) Engineer's estimate, $44,670; (b) Lupfer & Remick, Buffalo, $42,976; Holler & Shepard, Rochester, $43,022; Eastover Constr. Co., Inc., Utica, $43,903; John M. Holler, Albany, $46,743.

Unit prices of (a) and (b):

| | (a) | (b) |
|---|---|---|
| 40,000 cu. yds. excav | $0.45 | $0.40 |
| 1,070 cu. yds. 2d-class conc. | 7.50 | 7.50 |
| 176,000 lbs. structural steel | .04 | .04 |
| 940 cu. yds. lining | 1.50 | 1.25 |
| 36 M ft. sawed lumber (untreated) | 60.00 | 50.00 |
| 90 M ft. sawed lumber (treated) | 65.00 | 58.00 |
| 440 lin. ft. w.-i. pipe rail | 1.50 | 1.40 |
| 1,600 lin. ft. wooden fence | .25 | .25 |
| 4,500 lin. ft. foundation piles | .25 | .60 |

**Bayonne, N. J.**—The Hudson and Union County members of Board of Chosen Freeholders will meet shortly in Court House, Jersey City, and make further arrangements for erection of a bridge across Newark Bay, connecting Bayonne with Elizabeth. The distance between Bayonne and Elizabeth is over a mile. Cost will probably be over $1,000,000.

Construction of bridge over Avenue B entrance to Hudson County Park is contemplated by city; cost $30,000.

★**Morristown, N. J.**—Contract awarded Aug. 10 by County Bd. Chosen Freeholders, for furnishing material and constructing 2 reinforced concrete arch bridges over Rockaway River to F. W. Schwiers, Jr., Co., 90 West St., New York, at $3,826 and $6,139.

**Somers Point, N. J.**—Plans being prepared by A. H. Nelson, Bartlett Bldg., Atlantic City, for bridge with concrete abutments and steel span, over the Patcong Creek for Bd. Chosen Freeholders; cost, $50,000.

**Lewistown, Pa.**—Bids reported desired for constructing a reinforced concrete bridge costing $50,000, according to plans by C. C. Brown, Lewistown.

**Meyersdale, Pa.**—Bids desired until Aug. 26 by County Comrs., Somerset, for erecting stone arch or concrete arch for bridge over Flaugherty Creek, Meyersdale, 50 ft. long, 34 ft. roadway, 6 ft. sidewalk on each side.

**Philadelphia, Pa.**—See "Sewerage and Sewage Disposal."

★**Philadelphia, Pa.**—Contracts awarded Aug. 14 for constructing bridges as follows: 71st St. bridge, to Monaghan & Losse, 214 S. 12th St., $19,225; Reed St. bridge, to Enos L. Leeds, 6314 Wissahickon Ave., $10,200; Warrington Ave. bridge, to M. & J. B. McHugh, 714 Commercial Trust Bldg., $3,923.

Bids reported desired until Aug. 25 by Bureau Surveys, for erecting bridge on Calumet St. over Norristown Branch of Reading Ry.

**Pittsburgh, Pa.**—Bids desired until Aug. 28 by County Controller, Pittsburgh, for constructing reinforced concrete elliptical arch over Gourdhead Run, Hampton Township, ½-mile from Allison Park Station.

**Scranton, Pa.**—Plans for bridge at S. Washington Ave. have been approved by the State Engineer.

★Contract for constructing bridge over Leggett's Creek awarded to Mathias Stipp for the superstructure, at $3,485, and for the wing walls and substructure, at $1,785, extra concrete work and excavation $10 per cu. ft. and wooden fencing in place 65 cts. per lin. ft.

Bids reported desired until Aug. 25 by Dept. Pub. Wks. for erecting 2 bridges, one at S. Washington Ave. and one at Myrtle St.

★**Wyoming, Pa.**—Contract was awarded Aug. 11 by County Controller, Wilkesbarre, for constructing concrete and reinforced steel bridge 1759 ft. 6 in. long 25 ft. wide over Susquehanna River at Wyoming, to Penn Bridge Co., Beaver Falls, at the following bid: Substructure work complete $66,000; reinforced concrete superstructure spans complete, $43,000; steel superstructure spans complete, $73,800; total, $182,800. Totals of other bids: B. G. Coons Constr. Co., Wilkesbarre, $227,436; Dravo Contr. Co., Pittsburgh, $219,500; No. Branch Engr Co., Pittston, $224,666; Pennsylvania Steel Co., Steelton, $190,559; Jas. McLinden & Co., Angelsea, N. J., $209,650; John Monks & Sons, New York, $249,418; Lathrop, Shea & Henwood, Scranton, $224,300; P. J. Carlin Constr. Co., New York, $231,720; C. H. Reinard, P. Bloomsburg, $230,914; Whitaker & Diehl, Harrisburg, $201,844; D. M. Rosser, Kingston, $249,630; Engineer estimate, $227,104.

**Baltimore, Md.**—See "Miscellaneous."

**Baltimore, Md.**—Bids desired until Aug. 25 by State Roads Comm., Baltimore, for constructing reinforced concrete bridge, arch design, one 72 ft. and two 56 ft. across Patapsco River, Ellicott City.

Bids desired same place as above until Aug. 27 for constructing reinforced concrete bridge, girder construction, 4 30-ft. spans, across North Branch of Patapsco River, along Liberty Rd.

★**Baltimore, Md.**—Contracts awarded by State Roads Comn. Aug. 14 on bids opened Aug 13 for constructing substructure and superstructure of the Hanover St. Bridge to H. P. Converse & Co., Boston, Mass., at $667,898. Other bids received: Maryland Dredge & Contr. Co., $699,729; McLean Contr. Co., $711,520; McHarg, Barton & Co., New York, $791,242; Robt. Grace Contr. Co., Pittsburgh, $822,615; Elkan-Tufts Constr. Co., $854,415; Chas. Fath & Co., Cleveland, $858,952; Sanford & Brooks, $944,575; National Found. & Engr. Co., Cleveland, $1,022,822.

★**Matewan, W. Va.**—Contract for constructing 2 bridges across Tug River, one mile above Matewan, and also 2 miles of railroad track, awarded to Boxley, Haley & Co., Roanoke, at about $125,000 by the Norfolk & Western Ry. Co.

★**Mt. Holly, N. C.**—Contract for erecting county bridge across Catawba River at Mt. Holly, between Gaston and Mecklenburg Counties, awarded to Virginia Bridge & Iron Co., Roanoke, Va., at $18,172.

**Bowman, Ga.**—Bids desired until Sept. 28 by Commissioners of Roads and Revenues, Elbert and Madison counties, at Elberton, for constructing a county line steel bridge over Broad River, near Moores Ferry, to consist of one span 160 ft., one span 120 ft. and 3 spans, 80 ft. each. Substructures consist of 4 piers and 2 abutments. Searcy B. Slack, Engr., University of Georgia, Athens.

**Chicago, Ill.**—Bids opened by Comr. Pub. Wks. for construction of substructure of Belmont Ave. double leaf trunnion bascule bridge: (a) Great Lakes Dredge & Dock Co., $108,970; (b) Nash-Dowdle Co., $111,325; (c) Byrne Bros. Dredg. & Engr. Co., $113,377; Fitzsimons & Connell D. & D. Co., $113,715; Standish & Allan, $119,670.

Unit prices of 3 lowest bids:

| | (a) | (b) | (c) |
|---|---|---|---|
| Removing obstructions (lump sum) | $1,000.00 | $1,500.00 | $2,000.00 |
| Maintain. temporary bridge, etc. (lump sum) | 2,400.00 | 2,500.00 | 1,500.00 |
| Cofferdams (lump sum) | 23,500.00 | 24,780.00 | 23,500.00 |
| 4 piles, driving test piles | 25.00 | 40.00 | 25.00 |
| 8,000 cu. yds. excavation | .90 | 1.00 | 1.00 |
| 1,500 cu. ft. removal sub-piers—limestone | .15 | .50 | .37 |
| 100 cu. ft. removal sub-piers—boulders | .15 | 1.00 | .75 |
| 3,800 cu. yds. Portland concrete piers, etc | 6.50 | 6.30 | 7.25 |
| 250 cu. yds. Portland cement mortar | 14.00 | 12.00 | 13.00 |
| 9,000 cu. ft. sub-piers under main piers | .70 | .70 | .40 |
| 2,500 cu. yds. concrete in retaining walls | 7.25 | 6.60 | 7.00 |
| 270,000 lbs. steel reinforcing rods | .025 | .025 | .03 |
| 16,500 lbs. structural steel | .05 | .04 | .04 |
| 80,000 lin. ft. handling steel furnished by super. contr. | .005 | .01 | .015 |
| 8,000 lin. ft. creosoted oak piles delivered | .35 | .35 | .40 |
| 14,000 lin. ft. Norway pine-cypress piles delivered | .13 | .165 | .14 |
| 17,500 lin. ft. driving piles | .13 | .12 | .12 |
| 37 M ft. creosoted oak timbers in place | 75.00 | 75.00 | 75.00 |
| 75 lin. ft. divert. and extend. 7-ft. sewer | 12.00 | 20.00 | 17.50 |
| 40 lin. ft. divert. and extend. 15-in. sewer | 3.00 | 5.50 | 5.50 |
| 6,000 cu. yds. filling on west approach | .20 | .25 | .25 |
| 1,360 lin. ft. gas pipe railing on approach | 1.50 | 1.75 | 2.00 |

**Albany, N. Y.**—Unit prices of 4 lowest bids opened Aug. 11 by State Supt. Pub. Wks. for bridge over Erie Canal in Yorkville: (a) Engineer's estimate, $108,180; (b) Scott Bros., Rome, $94,583; (c) Lupfer & Remick, Buffalo, $94,615; (d) Walsh Const. Co., Davenport, Ia., $95,700; (e) Chas. Kiehm, Utica, $95,721

| | (a) | (b) | (c) | (d) | (e) |
|---|---|---|---|---|---|
| Cofferdams, pumping, bailing and draining (lump sum) | $5,600.00 | $5,600.00 | $6,700.00 | $4,500.00 | $3,000.00 |
| 27,400 cu. yds. excavation | .75 | .50 | .46 | .45 | .60 |
| 25 M ft. sheeting and bracing | 50.00 | 45.00 | 50.00 | 50.00 | 50.00 |
| 1,276 cu. yds. lining | 1.50 | 1.25 | 1.50 | 1.50 | 1.50 |
| 8,500 lin. ft. foundation piles | .30 | .20 | .25 | .25 | .35 |
| 2,066 cu. yds. second-class concrete | 7.50 | 8.00 | 8.00 | 7.00 | 8.80 |
| 240 cu. yds. first-class reinforced concrete | 14.00 | 14.00 | 10.00 | 14.00 | 13.00 |
| 15,200 lbs. metal reinforcement | .035 | .03 | .03 | .025 | .035 |
| 100 sq. yds. cobblestone gutter | .75 | .75 | .75 | .70 | .75 |
| 2,572 lin. ft. wooden fence | .25 | .30 | .25 | .25 | .25 |
| 2,872 sq. ft. concrete sidewalk | .25 | .25 | .25 | .20 | .18 |
| 780,000 lbs. structural steel | .0425 | .039 | .041 | .042 | .038 |
| 9,900 lbs. cast-iron pipe | .03 | .025 | .03 | .025 | .03 |
| 452 lin. ft. lattice railing | 1.75 | 1.75 | 1.75 | 1.90 | 2.00 |
| 4,270 sq. yds. bituminous macadam pavement | 3.00 | 3.00 | 2.50 | 3.00 | 2.40 |
| 1,620 lin. ft. concrete curb | 1.00 | .75 | .70 | 1.00 | .65 |
| 270 lin. ft. concrete header | 1.00 | .65 | 1.00 | 1.00 | .65 |
| 740 sq. yds. asphalt block pavement | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| 6 oil signal lamps (each) | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| Removing existing highway bridge (lump sum) | .... | 10.00 | 200.00 | 300.00 | 200.00 |
| 30 cu. yds. removing existing masonry | 7.00 | 5.00 | 7.00 | 6.00 | 7.00 |
| Maintaining navigation (lump sum) | 1,000.00 | 150.00 | 100.00 | 600.00 | 500.00 |
| Maintaining highway traffic (lump sum) | 500.00 | 400.00 | 500.00 | 400.00 | 250.00 |
| 1,150 lin. ft. raising or shifting railroad tracks | 1.50 | .10 | .575 | 1.50 | .85 |

**Tampa, Fla.**—Bids desired until Aug. 24 by County Comrs. for constructing 29 concrete bridges and culverts on Plant City, Riverview and Sulphur Springs Rd. Jas. Riddle, Engr., Tampa.

★**Birmingham, Ala.**—Contract awarded by Louisville & Nashville Railroad Co. to Jefferson Constr. Co., New Orleans, La., for construction of reinforced concrete viaduct on 1st Ave., bet. 26th and 32d Sts.; approximate cost $200,000.

**Houston, Miss.**—Bids desired Sept. 7 by County Bd. Superv. for constructing 7 steel bridges, 30, 70, 16, 45, 60 and 70 ft. long, respectively, 3 steel or wood bridges, 30, 35 and 50 ft. long respectively.

**Chattanooga, Tenn.**—Bids desired until Sept. 15 by County Bridge Cmrs. for making soundings for location of piers for new Market St. Bridge over Tennessee River.

Modified plans for the Market St. bridge over Tennessee River have been approved by the War Dept. The bridge is to be constructed of concrete, except the channel span, which is to be Sherzer rolling lift bascule, and to be 290 ft.; side spans are to be 180 ft. long; width to be 50 ft. L. B. Bryan, Engr. Market St. Bridge Comn.

**Louisville, Ky.**—Lowest bid received for constructing Dupuy St. bridge over the canal, submitted by J. H. Cahill, at $13,855.

**Cleveland, O.**—Citizens voted Aug. 11 to issue $950,000 bonds for completing Clark Ave. bridge. W. H. Kirby, Secy., Dept. Pub. Service.

★Contract awarded to C. A. White & Co. for reinforced concrete bridge and retaining wall in Rockefeller Park north of Superior Ave. at $8,400.

★**Marion, O.**—Contract for constructing 175 ft. span bridge on Retterer Pike over Whetstone in Richland Township awarded to Central Concrete & Constr. Co., Canton, at $7,967.

**Woodsdale, O.**—Lowest bid received by Co. Comrs., Hamilton, for constructing bridge over Miami River at Woodsdale submitted by Hackedorn Constr. Co., Indianapolis, Ind., at $75,860 for concrete bridge and from Oregonia Bridge Co. at $59,000 for steel bridge.

★**Youngstown, O.**—Contract awarded for constructing bridge over Andrews Hollow at 5th Ave. (bids opened Aug. 7) to N. H. Porterfield, 17 Battery Pl., New York, N. Y., at $35,636. F. M. Lillie, City Engr.

★**Booneville, Ind.**—Contract for constructing 15 bridges in Warrick County awarded to Vincennes Bridge Co.

★*Items marked thus give the names of parties awarded contracts.*

★**Lafayette, Ind.**—Contract for east approach to Main St. Bridge awarded to H. Hoffman at $5,444.

**Muncie, Ind.**—Blueprints have been submitted to the Bd. Pub. Wks. by Chesapeake & Ohio R.R. (F. I. Cabell, Ch. Engr., Richmond, Va.) for the lengthening and raising of bridge over White River.

**Chicago, Ill.**—Bids opened by Comr. Pub. Wks. Aug. 7, for construction of superstructure of double leaf trunnion bascule bridge over North Branch of Chicago River at Belmont Ave.: (a) superstructure complete, (b) deduct for roadway lights; Great Lakes Dredge & Dock Co., (a) $39,800, (b) $1,500; Ketler-Elliott Erection Co., (a) $145,000, (b) $2,000; Standish & Allen, (a) $149,000, (b) $2,500; Modern Steel Structural Co., (a) $150,000, (b) $1,000; Oscar Daniels Co., (a) $156,980, (b) $0.

★**Metropolis, Ill.**—American Bridge Co., Ambridge, Pa., reported to have secured contract for steel needed in construction of bridge across Ohio River at Metropolis. $98,000.

★**Des Moines, Ia.**—City Clerk writes contract for constructing bridge at 7th St. awarded to Geo. Kass Constr. Co., Des Moines, at $139,000. It will be of reinforced concrete, 4 spans 112 ft. 6 in., width 48 ft.

★**Keokuk, Ia.**—Contract for constructing a bridge across the river has been awarded to Hamilton Bridge Co.

**Orchard, Ia.**—Bids reported desired until Aug. 21 by County Auditor at Osage, for constructing 60x16 ft. pony truss steel highway bridge, with concrete floor and abutment, 4½ miles from Orchard.

**Osage, Ia.**—Bids reported desired until Aug. 21 for constructing 60 x 16 ft. pony truss steel highway bridge with concrete floor and abutments.

★**Cottonwood Falls, Kan.**—Contract awarded Aug. 8, for constructing concrete bridge over Cottonwood River, to Missouri Valley Bridge & Iron Co., Leavenworth, Kan., at $13,700. W. B. Penny, Co. Clk.

**Wichita, Kan.**—Citizens voted Aug. 4, to construct bridge between Central and South Riverside Park. Cost $15,000. Indefinite as to when work will begin. Bert Wells, City Engr.

★**Huntsville, Ark.**—Contract for constructing county bridge across War Eagle at Withrow Ford, 5 miles north of Huntsville, awarded to P. J. Barringer, Fayetteville, at $6,462.

**Boerne, Tex.**—Plans and specifications desired for a low water concrete bridge across the Cibolo at Main St. A. S. Pepperwein, City Secy.

★**Dallas, Tex.**—Contract awarded to Ess & Skinner for construction of 3 bridges across Trinity River in Dallas County, at $27,250. Next 3 lowest bids: El Paso Bridge & Iron Co., $29,335; Missouri Valley Brick & Iron Co., $31,376; Modern Steel Structural Co., $33,220.

★**Houston, Tex.**—Contract for constructing reinforced concrete bridge across Little White Oak Bayou at Lightwood Ave. awarded to W. L. Larson & Co., at $7,200.

**Sinton, Tex.**—About $10,000 county bridge bonds sold.

**Colorado Springs, Colo.**—Bids desired until Aug. 22 by County Comrs., Colorado Springs, for constructing an additional reinforced concrete girder span of 40 ft. over Cattle Creek, 1¼ miles north of Greed; also constructing reinforced concrete bridge over Fountain Creek on Manon City Rd., Colorado Springs.

★**Pueblo, Colo.**—Contract for repairing the viaduct awarded to Ripley & Leslie $6,742.

**McAlester, Okla.**—Bids reported desired until Aug. 24 by City Clerk, for constructing reinforced concrete bridge across Sandy Creek at 2d St.

★**Seattle, Wash.**—Contract recommended for award by U. S. Engineers, Burke Bldg., to Stillwell Bros., for constructing reinforced concrete piers for Montlake Boule. bridge. Piers cost $50,000.

**Stockton, Cal.**—Secretary War approved permits for erection of bridges to be constructed over Old and Middle Rivers to be of steel each 530 ft. long and 6 ft. wide.

**Ventura, Cal.**—Bids opened Aug. 8 by the Bd. County Supervisors for constructing pile bridge: Chas. W. Corbaley Co., $21,951; Mercereau Bridge & Contr. Co., $20,278; Mesmer & Rice, $22,013, and Merchants' Realty & Investment Co., $21,000 (bidders, all of Los Angeles).

**Pocatello, Idaho.**—All bids for constructing steel bridge in Custer County reported rejected as being too high; cost

**New Westminster, B. C.**—Canadian Northern Ry. Co. reported to have completed plans for constructing a steel bridge across Fraser River here. M. H. MacLeod, Ch. Engr., Winnipeg, Man.

## PAVING AND ROADS.

*Items Arranged Geographically*

**Boston, Mass.**—Bids desired until Aug. 25 by Massachusetts Highway Comn., Boston, for construction section of highway in town of Uxbridge, 4200 ft. in length.

★**Boston, Mass.**—Contracts awarded to West Roxbury Trap Rock Co., for asphalt macadam roadway in West Roxbury (bids opened Aug. 10) on Clement Ave., at $5324 and on Pinehurst St., at $4868.

**Woonsocket, R. I.**—The Bd. of Aldermen, Aug. 10, voted in concurrence appropriation of $7,500 for curbing and paving on E. School St.; $18,000 for curbing and paving West School St. and $28,000 for curbing and paving Pond St. T. H. Mills, City Engr.

★**Windsor, Conn.**—Contract for constructing concrete sidewalks awarded by Windsor Sewer Dist. to Baker & Lasher, Inc., New Britain, at about $17,000.

**Albany, N. Y.**—Bids will be opened Sept. 1 (not Sept. 11, as previously stated) by State Comn. of Highways, 55 Lancaster St., Albany, for constructing and repairing various State highways, advertised in Engineering Record.

★**Binghamton, N. Y.**—Contract for constructing bitulithic pavement on Chenango St. Viaduct awarded by Bd. Contract and Supply and Estimate and Apportionment to Warren Bros. Co., Boston, Mass., at $1.75 per sq. yd.

★**Little Falls, N. Y.**—Contract for paving Gansevoort St. awarded to Warren Bros. at $30,406. Other bidders: Hallihan Bros., $33,594; R. D. Cooper Co., $33,156.

★**Newburgh, N. Y.**—Contract for paving with asphalt block on William St. awarded to Jas. L. Kehoe, Newburgh, at $24,479 with stone curb.

★**Rochester, N. Y.**—Contract for brick paving on Arnett Boule. awarded to Thos. Hohan at $5,970.

★**Rochester, N. Y.**—Contract for paving with brick Arnett Boule. awarded by Bd. Contract and Supply to Thos. Holahan, 164 Lewis st., at $5,970.

**Atlantic City, N. J.**—Plans being prepared by A. H. Nelson, Bartlet Bldg., for paving 5 miles Meadow Boule. for Bd. Freeholders, Atlantic County; cost about $135,000.

**Avon, N. J.**—City Council contemplates paving with brick Main St.; cost about $40,000.

**Belvidere, N. J.**—Warren County Bd. Freeholders voted $25,000 appropriation for constructing and repairing roads.

**Elizabeth, N. J.**—Bids desired until Sept. 8 by City Council for resurfacing old telford roads with asphalt concrete, advertised in Engineering Record. Preliminary estimate 185,000 sq. yds. Thos. E. Collins, City Engr.

★**Hammonton, N. J.**—Contract awarded to H. K. Spear, Hammonton, for 49,080 sq. ft. concrete sidewalks (bids opened Aug. 8).

★**Rahway, N. J.**—Contract for paving portions of Irving St. and Milton Ave., in all 6150 sq. yds., with asphalt block, has been awarded to Hastings Paving Co., at $2.61 per sq. yd.

**West Hoboken, N. J.**—The Town Council will soon let contract for paving Palisade Ave., from Paterson Plank Road to Weehawken St.

**West Hoboken, N. J.**—Bids desired until Aug. 26 by Town Council for paving Paterson Plank Rd. to Wehawken St. with a silent pavement, requiring between 23,000 and 25,000 sq. yds. pavement.

**Indiana.**—Bids desired by County Commissioners for constructing roads as follows:

Until Sept. 4:

Columbia City, 2 stone roads in Smith Township and 3 gravel roads in Jefferson Township.

Until Sept. 7:

Tipton, 2 gravel roads in Cicero and Madison Townships.

Until Sept. 8:

Madison, 2 gravel roads in Hanover and one in Republican Township.

Winamac, roads in Monroe and Tippecanoe Townships.

**Pennsylvania.**—Bids desired by State Highway Dept., Harrisburg, until Sept. 8 for the reconstruction of the following road: Beaver County, North Sewickley Township, 10,198 ft. brick block pavt.

★**Philadelphia, Pa.**—Contracts for resurfacing county roads awarded as follows: Union Paving Co., contracts amounting to $166,979; P. J. Snyder & Co., $6,585; Eastern Paving Co., $12,937; J. F. Shanley & Co., $4,862; to Peoples Bros., D. J. Lynch and Dwyer & Co., $73,132; asphalt paving contracts amounting to $41,534 as follows: Barber Asphalt Co. and Union Paving Co.; vitri. block pavt. to Cunningham Paving Co. and Mack Paving Co. at $32,900.

**Philadelphia, Pa.**—Bids desired until Aug. 27 by Dept. Pub. Wks. for paving and repaving streets with asphalt, granite blocks, vitr. blocks, wood blocks, surfacing country roads, repairing and patching bituminous pavements, furnishing and delivering torpedo sand, etc.

**Albany, N. Y.**—Bids opened Aug. 11 by State Supt. Pub. Wks. for constructing certain highways adjacent to Hinckley reservoir, Sects, 2, 3, 4, 5, 7, 8, 9, 10 and 14, and completing work on or before Jan. 1, 1915: (a) Engineer's estimate, $99,120; (b) J. L. Richmond, Little Falls, $93,981; (c) Flood & Wirt Co., Hudson Falls, $95,695; (d) E. H. Brown, Hempstead, $98,412; Huntington, Bonney & Hamilton, 238 Spencer St., Rochester, $100,964; Richard Hopkins, Troy, $101,960; Buffalo Dredging Co., Buffalo, $122,146.

Unit prices of (a), (b), (c), (d):

| | (a) | (b) | (c) | (d) |
|---|---|---|---|---|
| 7,000 cu. yds. excav. (Class A), culverts, bridge abutments and piers, including backfill | $1.00 | $0.85 | $1.20 | $1.20 |
| 50,000 cu. yds. excav. (Class B), highway prism | .55 | .50 | .50 | .51 |
| 41,000 cu. yds. forming embankment, highway prism | .10 | .06 | .10 | .08 |
| 670 cu. yds. lining (under riprap) | 2.00 | 2.00 | 1.50 | 2.00 |
| 6,800 cu. yds. surfacing (gravel or broken stone) | 2.00 | 2.00 | 2.00 | 2.20 |
| 2,400 cu. yds. second-class concrete | 10.00 | 9.00 | 9.25 | 9.00 |
| 55 cu. yds. reinforced concrete | 12.00 | 12.00 | 10.00 | 11.00 |
| 80 cu. yds. dry masonry | 5.00 | 4.00 | 5.00 | 5.50 |
| 1,730 cu. yds. riprap (12-in., 16-in. and 30-in.) | 2.50 | 2.40 | 2.00 | 2.50 |
| 270 sq. yds. 12-in. paving (at culverts), stone | 2.00 | 2.00 | 1.75 | 2.20 |
| 1,390 sq. yds. cobblestone paving | 1.00 | 1.00 | .85 | 1.00 |
| 330 sq. yds. pointing dry masonry | .50 | .50 | .50 | .50 |
| 46,500 lbs. cast-iron pipe | .02 | .02 | .02 | .024 |
| 6,840 lbs. metal reinforcement | .04 | .04 | .04 | .0375 |
| 10,880 lbs. structural steel | .05 | .05 | .05 | .045 |
| 10,770 lin. ft. wooden fence (guard rail) | .25 | .22 | .27 | .30 |
| 2,600 lin. ft. vitr. pipe underdrain (6-in vitr. pipe and broken stone or screened gravel) | .50 | .35 | .50 | .50 |
| 110 lin. ft. wrought-iron pipe railing | 1.00 | 1.25 | 1.20 | 1.00 |
| 31 M ft. sawed lumber (bridge flooring and box drains) | 50.00 | 45.00 | 50.00 | 50.00 |
| 31 M ft. sheeting and bracing (trench for underdrain, bridge foundations) | 40.00 | 35.00 | 40.00 | 40.00 |
| Clearing (right of way) (lump sum) | 120.00 | 500.00 | 144.00 | 144.00 |
| Maintain. highway traffic (lump sum) | 400.00 | 1,000.00 | 480.00 | 480.00 |
| Cofferdams, pump., bail. and drain. (lump sum) | 500.00 | 1,000.00 | 600.00 | 600.00 |
| Taking down and removing bridges (lump sum) | 700.00 | 1,500.00 | 840.00 | 840.00 |
| Erect. McIntosh Bridge (lump sum) | 1,000.00 | 2,000.00 | 1,200.00 | 1,200.00 |
| Raising bridges (at Grant, Pardeeville and Shawangunk) (lump sum) | 1,200.00 | 2,000.00 | 1,440.00 | 1,440.00 |
| 3,300 lin. ft. foundation piles | .40 | .30 | .40 | .48 |
| 2 M ft. wooden sheet piling | 55.00 | 30.00 | 65.00 | 60.00 |
| 2,000 lin. ft. round timber bracing | .05 | .05 | .06 | .05 |
| Removing building (lump sum) | 10.00 | 10.00 | 10.00 | 12.00 |

**Verona, Pa.**—Bids desired until Aug. 31 by Boro. Council for 5400 cu. yds. grading, 5250 lin. ft. concrete curb and gutter, 9400 sq. yds. paving, etc. Douglass & McKnight, Engrs., 1709 Union Bank Bldg., Pittsburgh.

★**Baltimore, Md.**—State Roads Comn. has awarded contracts as follows: 1 mile of road near Middletown to M. J. Grove, Limekiln, Md., at $9,090; 6.28 miles of road, St. Mary's City to Ridge, to Luck Constr. Co., Roanoke, Va., at $36,619; also to same company for 9.81 miles of road from Leonardtown to Great Mills, at $24,258; 5.89 miles of road from Cambridge to Church Creek, to Humphrey & Bentley, Elizabeth, N. J., at $59,103; 7.7 miles from Licking Creek to Hancock, to J. Winston Co., New York, at $101,975.

★Contract for paving Mulberry St. and 8 other streets and one alley with sheet asphalt awarded by Paving Comn. (J. Myers Hedian, Secy.) to Southern Paving Co., Maryland Trust Bldg., Baltimore, at $87,211, in all 40,150 sq. yds. and 4810 sq. yds. vitr. blocks for gutters. Baltimore Asphalt Block & Tile Co. secured the contract for sheet asphalt on 23rd and 24th Sts. and Westwood Ave. at $10,938.

**Washington, D. C.**—Bids desired until Aug. 31 by Commissioners D. C., for grading and improving suburban streets and avenues.

**Washington, D. C.**—Bids desired until Aug. 28 by Commissioners D. C. for laying about 70,000 sq. yds. cement sidewalks.

**Ft. Pierce, Fla.**—New bids desired until Sept. 1 by County Comrs., Ft. Pierce, for hard surfacing with marl, 2 roads, one from Fellsmere 1½ miles north, and one on Sebastion and Fellmere Rd., about 1 miles.

★**Guntersville, Ala.**—Contract for 12 miles of macadam road in Marshall County awarded to Goodrich Crinkley Constr. Co., of Anniston.

**Jasper, Ala.**—Bids desired until Sept. 14 by County Comrs. Court for $88,000 road bonds.

**Linden, Ala.**—Bids reported desired until Aug. 24 by County Comrs., for grading, draining and surfacing with gravel 2¼ miles road. Expenditure $7,000. W. S. Keller, State Highway Engr., Montgomery.

**Friar Point, Miss.**—Bids desired by County Superv. in Sept. for graveling about 18 miles of road.

**Lancing, Tenn.**—Bids reported desired until Sept. 1 by Pike Road Com. for constructing 80 miles road.

**Nashville, Tenn.**—Bids soon to be asked for paving with wood block on 2d Ave.; cost about $16,005. J. M. Wilkerson, Comr. Streets.

★**Akron, O.**—Later reports state that contract for paving Loyal Oak Road was awarded to Portage Eng. Co. by the Comrs. of Summit County, at Akron, not Cleveland, as previously stated.

**Canton, O.**—Bids desired until Aug. 28 by Dir. Pub. Service for constructing 7 vitr. brick pavements, one sheet asphalt pavement, 4 street improvements, consisting of grading, curbing, sidewalks, etc., and 4 storm water sewer jobs, advertised in Engineering Record. Estimated cost of the work, divided into 16 jobs, is $355,000. W. E. Sarver, City Engr.

**Cincinnati, O.**—Lowest bid for repairing the Colerain Pike submitted by John Nickoson; cost estimated at $43,580; cost of repairing Duck Creek road estimated by County Surveyor at $21,122.

★**Defiance, O.**—Contract for paving 2nd St. awarded to Asphalt Block Paving Co. of Toledo, at $32,000.

★**Lima, O.**—Contract awarded for paving Metcalf, Spring Sts. and Central Ave. to Summers & Hardin, Lima, at $8,916. C. H. Bryson, City Engr.

**Lorain, O.**—Bids desired until Sept. 2 by County Comrs. for paving with bituminous bound slag macadam—pouring method, Cotton and Town Line Rd., 2,690 ft. long. Approximate cost $2,889. T. L. Gibson Co., Surveyor.

**Oak Hill, O.**—Bids desired by Village Clerk until Sept. 15 for about 3000 sq. yds. brick paving. A. E. Campbell, Engr., Jackson.

★**Ohio.**—Contracts were awarded by State Highway Dept., Columbus, on bids opened Aug. 4 to lowest bidders, as stated in Engineering Record of Aug. 15, with the exception of the following, on which awards have been withheld:

Clermont County—Cincinnati-Batavia Rd., Ohio River Rd., Cincinnati-Chillicothe Rd., Bethel-Chilo Rd. and Cincinnati-West Union Rd.

Columbiana County—Unity-Salem Rd.

Guernsey County—National Rd., Sects. 1 and 2.

Huron County—Ashland-Norwalk Rd.

Licking County—Sect. 1, Columbus-Millersburg Rd.

Summit County—Cleveland-East Liverpool Rd.

Trumbull County—Sect. 1, Youngstown-Cleveland Rd.

Sandusky County—Fremont-Perrysburg Rd.

No bids were received Aug. 4 on any of the following roads:

Greene County—Dayton-Springfield Rd.

Harrison County—Dennison-Cadiz Rd.

Hardin County—Roundhead-McGuffey Rd.

Hocking County—Chillicothe-Logan Rd.

Pike County—Hillsboro-Piketon Rd.

Trumbull County—Chagrin Falls-Greenville Rd.

Franklin County—National (West) Rd., National (East) Rd., Columbus-Washington C. H. Rd.

★**Ottawa, O.**—Contract awarded Aug. 11 for 5851 sq. yds. paving to H. S. Enck, Lima, on medal wire cut block, concrete foundation and cement fill, at $14,631. Engineers, Smith & Boulay Co., Nasby Bldg., Toledo.

★**Uhrichsville, O.**—Contract awarded Aug. 15 for paving Newport Ave. with brick to John L. West, Uhrichsville, at $5,325. H. O. Snyder, Village Clk.

★**Booneville, Ind.**—Contract for 3 miles of gravel road in Campbell Township awarded to R. W. Martin, Evansville, at $13,100.

**Frankfort, Ind.**—About $45,000 gravel road bonds sold by county.

★**Gary, Ind.**—The bid in detail of Henning & Dermot, Gary, successful bidders for paving 25th Ave., from B'way, Grant St., submitted as follows: 7011.6 sq. yds. macadam on slag base, 95 cts.; 4883 sq. yds. 5 ft. sidewalk, $1; 10,301.08 lin. ft. 6 x 20 in. concrete curb, 40 cts.; 696.8 lin. ft. macadam approach, 30 cts.; 13 catch basins, each, $30; 9 gutter inlets, each, $25; 1051 lin. ft. 10-in. vitr. drain pipe, $1; 6257 cu. yds. grading, 37½ cts.; 7 manhole covers reset, $3; total $20,037.

★Unit prices of M. D. King, Gary, successful bidder for paving 25th Ave., from Bway. to Prospect St., 8682.1 sq. yds. brick on 6-in. concrete base, $2.18; 2370.6 sq. yds. 5-ft. sidewalk, $1.10; 4521.1 lin. ft. curb, 6 x 20-in. concrete, 45 cts.; 652 lin. ft. headers, 6 x 14 in., 25 cts.; 2 catch basins, each, $50; 3 gutter inlets, each, $25; 9 manhole covers reset, each, $2.50; 2457 cu. yds. grading, 34 cts.; total $24,765.

★*Items marked thus give the names of parties awarded contracts.*

★**Greensburg, Ind.**—Contract for constructing Donnell Rd. awarded by County Comrs. to Craig Constr. Co. at $7,449.

★**Indiana**—Contracts for county paving work reported awarded as follows:
Shebler Road, Franklin County, to Puttmann & Carr, at $9,960.
Rock Road, Perry Township, Vanderburgh County, to John F. Edmond, Cypress, at $6,595.
Greenville and Pekin Road, Washington County, Jas. C. Brown, $4,590.

**Indianapolis, Ind.**—Bids reported desired until Sept. 2 by Bd. Pub. Wks. for curbing, paving, etc., on various streets; also until Sept. 4 for paving McCarty St.

**Logansport, Ind.**—Following are four lowest of bids received for paving Carson Road: Bell & Barbard, $14,762; Wm. Graffis, $14,835; Taber & Hullihan, $13,442, and McGreevy Bros., $14,700.
★Contract for constructing Sullivan Road awarded to John Novinger at $7,538.

**Rochester, Ind.**—Citizens voted $92,000 bonds for constructing gravel roads.

★**Iron Mountain, Mich.**—Contract for paving with bituminous macadam Ludington St. awarded by Bd. Pub. Wks. to Hicks & Barber, Vulcan, Mich.

**Illinois**—Bids desired until Aug. 25 by State Highway Comn., Springfield (P. C. McArdle, Acting Ch. Engr.) for State aid work as follows (all cement to be furnished by State): Boone County, Route 1, length 4000 ft., concrete construction, cost $6,816; Jackson County, Route 4, 3380 ft., brick construction, cost $9,766.

**Illinois.**—Bids desired until Sept. 1 by Illinois Highway Comn., Springfield, for paving as follows: (all cement to be furnished by State) (type of construction concrete) P. C. McAardle, Acting Ch. State Highway Engr.

| County | Route | Length Feet | Est. Cost |
|---|---|---|---|
| Scott | 4 | 1890 | $3,000 |
| Williamson | 8 | 6300 | 9,430 |
| Monroe | 1 | 1900 | 2,979 |
| Schuyler | 5 | 5400 | 6,767 |

★**Illinois**—Contracts awarded by State Highway Dept., Springfield, on bids opened Aug. 4 as follows: (all concrete construction):
★Carroll County, Route 2, to Gund Graham & Co., Freeport, $10,490.
★Macoupon County, Route 1, H. C. McBride & H. Worgensted, Carlinville, $16,108.
★DuPage County, to E. J. Mahoney Co., Chicago, at $17,868.
★Contracts awarded for State aid road construction on Aug. 11, as follows: (a) concrete; (b) brick:
★Franklin County, Route 1A and 1 to J. L. Dorris Constr. Co., Harrisburg, (a) $6,611.
★Logan County, Route 7 to John Awe, Lincoln, (a) $5,639.
★Lawrence County, Route 5, to Austin M. Shattuck, Brazil, Ind., (a) $9,680.
★Kankakee County, Route 16 to Andrew Ward & Son, Chicago Heights, (a) $17,112.
★Will County, Routes 2 and 13, to Chicago Heights Coal Co., Chicago Heights (2 contracts), (a) $14,590 and $17,949.
★Warren County, Routes 7 and 12, to Merrifield Constr. Co., Monmouth (2 contracts), (b) $11,936 and $9,156.
★Jefferson County, Route 3, to Jas. F. Collins, Mt. Vernon, (a) $5,482.
★Clark County, Route 1, Robt. Thompson, Marshall, (a) $6,650.

★**Green Bay, Wis.**—Contract awarded to White Contr. Co., Milwaukee, for paving E. Mason St. with asphalt, at $27,876. M. Kerr, City Clk.

★**La Crosse, Wis.**—Contract awarded Aug. 11 for 6000 sq. yds. asphaltic macadam to Thos. E. Wooley, La Crosse, at $9,437. Other bids: La Crosse Stone Co., La Crosse, at $9,897; Western Constr. Co., La Crosse, $9,728. John Vollmar, Secy., Bd. Pub. Wks.

★**Sheboygan, Wis.**—Lowest bids opened by Bd. Pub. Wks., Aug. 14: Birdsall & Griffith Constr. Co., Racine, brick paving on Jefferson Ave. and on N. 13th St., $1.98 per sq. yd.; total $14,090; Ribbens Constr. Co., Sheboygan, $1.38 per sq. yd. for reinforced concrete pavt. and 51 cts. for combined curb and gutter; total $4,078. C. U. Boley, City Engr.

**Corydon, Ia.**—Bids opened by City Council Aug. 10 for paving as follows: (a) Jas. Horralein & Co., Des Moines; (b) Spalding & Kearns, Fairfield:

| | (a) | (b) |
|---|---|---|
| 30,290 sq. yds. asphaltic concrete | $1.80 | $1.92 |
| 1,210 sq. yds. brick | 1.97 | .... |
| 15,806 ft. curb and gutter | .62 | .61 |
| 1,442 ft. header curb | .33 | .40 |
| 758 ft. false curb | .33 | .45 |
| 20,600 lbs. cast iron plates | .045 | .04 |
| 3 storm water inlets | 20.00 | 27.50 |
| 40 ft. 10-in. storm sewer | 1.00 | .75 |
| 100 ft. 12-in. storm sewer | 1.25 | .85 |
| 150 ft. 18-in. storm sewer | 1.50 | 1.50 |
| Extra grading (per cu. yd.) | .49 | .48 |

★**Iowa City, Ia.**—Contract awarded Aug. 9, to Wm. Horrabin, Iowa City, at $1.90 per yd., for 42,000 yds. bitulithic pavement with cement curb and gutter. Geo. F. Reddick, City Clk.

**Benson, Minn.**—Bids reported desired until Aug. 28 by County Auditor for grading and graveling 5308 lin. ft. turnpike and graded road.

★**Duluth, Minn.**—Contract for paving 2 miles of new Duluth road awarded to D. H. Clough & Co., at $48,280. Pavement to be concrete.

**Minneapolis, Minn.**—Bids reported desired until Aug. 31 by County Comrs. for constructing concrete pavement for Rd. No. 3, West Minneapolis.

★**Park Rapids, Minn.**—Contract awarded to Jas. Wilkins for constructing State Rural Highway No. 9 from Latona to Park Rapids, a distance of 9 miles, at $4,113; and to Great Northern Bridge Co., Minneapolis, for State highway, a distance of about 45 miles, at $61,297.

★**St. Paul, Minn.**—Contract for 150,000 sq. ft. cement blocks for sidewalks awarded to St. Paul Cement Co. at about $20,000.

★**Lincoln, Neb.** — Contracts awarded Aug. 11 for paving as follows:
★District 272 to Burke Cochrane Constr. Co., Lincoln, Neb., as follows: 6650 cu. yds. asphaltic concrete, 2 in. on 5 in., 1:3:6 concrete base including grading below top of brick, $1.60; 110 yds. brick block grout fill, $2.30; 4530 lin. ft. curb and gutter, 6 in. curb, 30 in. gutter, 88 cts.; 80 lin. ft. concrete curb, 6 x 20 in., 54 cts.; 850 cu. yds. extra excav., 45 cts.; 2000 sq. ft. cement walks relaid 6 cts.; 1200 sq. ft. new cement walks, 13 cts.; total $15,481.
★District 225 to Abel & Roberts, Lincoln, as follows: 9000 yds. vitr. block with asphalt fill on 5-in. of 1-3-6 concrete base, including grading below top of curb, $2.14; 5120 lin. ft. concrete curb, 6 x 20 in., 52 cts.; 1500 cu. yds. extra excav., 40 cts.; 1000 sq. ft. cement walks relaid, 6 cts.; 500 sq. ft. new cement walks, 13 cts.; total $15,724.

★**Billings, Mont.**—Contract for paving west end of 1st Ave. awarded to Warren Constr. Co., Spokane, Wash., with gravel bitulithic at $71,478. Hanlon & Okes, Sioux City, Ia., submitted the only other bid at $75,403.

★**Columbus, Mont.**—Contract reported awarded to McLaughlin & O'Neil for concrete walks for the ensuing year at 14 cts. for crosswalks and 25 cts. for alley crossings, about 70,000 sq. ft.

**Great Falls, Mont.**—Bids desired until Aug. 24 by City Clerk, for constructing a standard boulevard on 16th, 17th and 18th Sts. and 1st Ave.

**Harlowton, Mont.**—Bids desired until Sept. 1 by Town Clk. for approximately 20,932 sq. ft. concrete sidewalk, 3620 lin. ft. curb, etc., also same time and place separate bids for 7230 sq. ft. concrete sidewalks, 1265 lin. ft. curb., etc.

★**Helena, Mont**—Contract for paving Fuller Ave. with brick awarded to Louis Johnson at $10,999. D. C. Sweeney submitted the only other bid at $11,570.

★**Sheridan, Wyo.**—Contract for paving with bitulithic reported awarded to Warren Constr. Co., Spokane, Wash., at about $65,000.

**Kansas City, Mo.**—Bids desired until Aug. 25 by Bd. Pub. Wks. for Portland cement concrete pavt. on Bway. and an alley; artificial stone sidewalks on 59th St., Bway. and other streets; artificial stone curb on Bway., Locust St., asphalt pavt. on Highland Ave., Locust St.; stone block on an alley; creosoted wood block on Delaware St. and concrete gutter on 59th St.

**Conway, Ark.**—It is proposed to macadamize all the streets in Street Improvement Dist. No. 2. Dr. Geo. S. Brown is a member of the Comn. of said Dist.

**Aransas Pass, Tex.**—Citizens voted Aug. 11 to issue $8,000 street improvement bonds.

**Ft. Bliss, Tex.**—Bids opened Aug. 13 by Capt. Wm. E. Hunt, Q.M. U. S. A., for construction of roads, walks, gutters and drains, at Ft. Bliss: Jennings & Woods, El Paso, $12,400, and Mayfield & Shaw, Ft. Bliss, $12,950.

**Sulphur Springs, Tex.** — Arthur D. Stives, City Engr., writes that bids to be opened Aug. 20 by City Secretary, were for bonds and not construction work. The date of paving letting will not be decided upon before Sept. 1. This contract is for paving Public Square, Church, Depot, Main and Jefferson Sts.; also 20,000 lin. ft. concrete curb, foundation concrete; cost $150,000; several classes of paving to be considered.

★**Trinity, Tex.**—Contract for paving 33 miles with brick awarded by Good Roads Com. to Smith Bros., Crockett, at about $76,000.

★**Wharton, Tex.**—Contract for County road work in Prect. No. 1 awarded to Gilland, Bailey & Reader.

★**Ft. Collins, Colo.**—Contract awarded by Co. Comrs. Aug. 4 for constructing road from Wellington to State line, about 6 miles of new work, 2 miles to be turnpike work, to Odell Bros., La Porte, at $4,220. Jas. G. Edwards, Co. Engr.

★**Olympia, Wash.**—City Clerk writes contract for paving Adam St. awarded Aug. 5 to Washington Paving Co., Tacoma, at $81,407. Other bidders: Independent Asphalt Paving Co., Seattle, $87,003; Harbor Paving Co., Aberdeen, $86,786; Alfred & James, Centralia, $91,873; Atlas Construction Co., Everett, $83,354; Jesse T. Mills, Olympia, $90,873.

**Port Townsend, Wash.**—Bids desired until Sept. 2 for construction, approximately 2 miles highway, known as Permanent Highway No. 2.

★**Raymond, Wash.**—Contract reported to Willipa Constr. Co. for paving in L. I. Dist. No. 92, at $20,124.

**Seattle, Wash.**—Bids reported opened by Bd. of Wks. Aug. 7 for paving Ewing St. (a) wood block, (b) brick: P. J. McHugh (a) $169,924, (b) $169,081; Sparger Concrete Co., (a) $172,677, (b) $168,040; R. G. Stevenson, (a) $169,940, (b) $169,940.
★Contract reported awarded to D. H. Traphagen, Lincoln Hotel, for concrete walks on 42nd Ave. S. W., at $25,541.
All bids received Aug. 10 by Co. Comrs. for relocating 4 miles of Snoqualmie Falls-Redmond Rd. have been rejected and new bids will be asked. Lowest bid submitted was $52,046.

**Newberg, Ore.**—Lowest bid reported submitted by Jeffery & Bufton, Portland, at $18,698, for paving of Capital Highway in Washington County.

**Portland, Ore.**—Lowest bid reported submitted by Warren Constr. Co. for paving Base Line Highway; cost $135,000.
Bid of Warren Constr. Co., at $1.19 per sq. yd. for the hardsurfacing of Riverside Drive has been recommended to the Co. Comrs. for award.
Lowest bids opened by City Council Aug. 12 for street improvements: Alameda and adjoining streets, Giebisch & Joplin, $71,841; Eugene St., from Williams Ave. to Union Ave., Oregon Independent Paving Co., $5,633; E. Lincoln St., Oregon Hassam Paving Co., $17,156; E. Clay St., Montague-O'Reilly Co., $29,337; district improvement of portions of Patton Ave. and adjoining streets, Oregon Independent Paving Co., $61,615; Fremont St., from E. 33d St. to county road, Oregon Independent Paving Co., $18,541.

**California.**—Bids opened Aug. 10 by the State Highway Comn., Forum Bldg., Sacramento, for following new state highway:
★Santa Clara County, Div. 4, Route 2, Sect. A—Awarded to Ransome-Crummey Co., Oakland, as follows: 13,000 cu. yds. excav. (without classification), 59 cts.; 240 lin. ft. cor. iron pipe, 18-in., 70 cts.; 80 lin. ft. 24-in., $1; 4 cu. yds. cement concrete, Class A (culverts and monuments, $10; 3800 cu. yds. cement concrete, Class C (pavt.), $2.60; 27,200 sq. yds. asphalt, 47 cts.; 17 monuments haul and set, $2.50; total, $30,664. Totals of other bids: John W. McDonald, Jr., San Jose, $35,337; Federal Constr. Co., San Francisco, $34,014; Engineer's estimate, $37,893.
Orange County, Div. 7, Route 2, Sect. B—Lowest bidder, B. R. Davisson Constr. Co., Monrovia, as follows: 45,500 cu. yds. excav. (without classification), 43 cts.; 142 lin. ft. cor. iron pipe, 12-in., $1.50; 411 lin. ft. 18-in., $2; 52 lin. ft. 24-in., $2.50; 236 cu. yds. cement concrete, Class A (culverts), $11; 105 cu. yds. cement concrete, Class B (culverts and monuments), $10; 9160 cu. yds. cement concrete, Class B (pavt.), $3.93; 4496 lin. ft. guard rail, 40 cts.; 120 monuments (haul and set), ea., $1; total, $62,293. Totals of other bids: Geo. Wigand, La Manda Park, $64,063; Arthur S. Bent Constr. Co., Los Angeles, $71,268; White & Gaskill, Long Beach, $62,923; Lynn S. Atkinson, Los Angeles, $92,608; O. & C. Constr. Co., Fullerton, $76,701; Engineer's estimate, $74,142.
Imperial County, Div. 7, Route 12, Sect. A—Lowest bidder, J. W. Calback, San Diego, as follows: 40,130 cu. yds. excav. (earth), 37.5 cts.; 5320 cu. yds. excav. (loose rock), 37.5 cts.; 8200 cu. yds. excav. (solid rock), 37.5 cts.; 382 lin. ft. 18-in. cor. iron pipe, 40 cts.; 439 lin. ft. 24-in., 40 cts.; 400 cu. yds. cement concrete, Class A (culverts), $8; 140 cu. yds. cement concrete, Class B (culverts and monuments), $8; 5890 cu. yds. cement concrete, Class B (pavt.), $4.50; 1540 cu. yds. dry rubble (retaining walls), $2.90; 8620 lin. ft. guard rail, 35 cts.; 118 monuments (haul and set), ea., 50 cts.; total, $58,814. Totals of other bids: Callahan & Hedrick, El Centro, $80,933; Rice & Dutcher, Imperial, $82,860; C. L. Hyde Constr. Co., San Diego, $94,555; Engineer's estimate, $73,081.
Alameda County, Div. 4, Route 5, Sect. A—Lowest bidder, Parrott Bros. Co., Salt Lake City, Utah, as follows: 9900 cu. yds. excav. (without classification), 60 cts.; 602 lin. ft. 12-in. cor. iron pipe, 40 cts.; 202 lin. ft. 15-in., 60 cts.; 474 lin. ft. 18-in., 80 cts.; 126 lin. ft. 24-in., $1; 56 lin. ft. 30-in., $1.25; 120 cu. yds. cement concrete, Class A (culverts), $10; 60 cu. yds. cement concrete, Class B (culverts and monuments), $10; 4900 cu. yds. cement concrete, Class B (pavt.), $2.40; 1000 lin. ft. guard rail, 30 cts.; 34 monuments (haul and set), ea., $1.25; total, $20,779. Totals of other bids: Bates, Borland & Ayre, Oakland, $29,040; Palmer & McBryde, San Francisco, $26,217; Engineer's estimate, $23,885.
★Santa Barbara County, Div. 5, Route 2, Sect. F—Awarded to T. K. Beard, Modesto, as follows: 171,540 cu. yds. excav. (without classification), 35 cts.; 448 lin. ft. 12-in. cor. iron pipe, 60 cts.; 347 lin. ft. 18-in., 70 cts.; 878 lin. ft. 24-in., 80 cts.; 70 lin. ft. 30-in., 85 cts.; 156 lin. ft. 36-in., 95 cts.; 1228 cu. yds. cement concrete, Class B (culverts and monuments), $13.30; 14,050 lin. ft. guard rail, 30 cts.; 188 monuments (haul and set), ea., 85 cts.; total, $82,168. Totals of next 3 lowest bids: C. H. Hudson, Los Angeles, $95,782; Marsh Bros. & Gardenier, Inc., Gold Run, $99,469; Mahoney Bros., San Francisco, $104,662; Engineer's estimate, $94,939.
Humboldt County, Div. 1, Route 1, Sect. D (rejected)—Lowest bidder, Graham, Jensen, Elsmore & Jacobs, San Francisco and Eureka, as follows: 34,15[illegible] cu. yds. excav. (without classification) 95 cts.; 424 lin. ft. 12-in. cor. iron pipe 50 cts.; 78 lin. ft. 18-in., 65 cts.; 28 lin ft. 24-in., 75 cts.; 132 lin. ft. 30-in., [illegible] cts.; 182 cu. yds. cement concrete, Class B (culverts and monuments), $15; 2[illegible] miles property fences (move and reset) $200; 53 monuments (haul and set), ea. $1; total, $36,164. Other bidder: F. Rolandi, San Francisco, $37,166; Engineer's estimate, $29,071.
★Contra Costa County, Div. 4, Route 14, Sect. A—Awarded to Jas. H. Faloner, Escalon, as follows: 30,800 cu yds. excav. (without classification), [illegible] cts.; 230 lin. ft. 12-in. cor. iron pipe, [illegible] cts.; 66 lin. ft. 15-in., 10 cts.; 108 lin. ft 18-in., 15 cts.; 110 lin. ft. 30-in., 25 cts. 150 cu. yds. cement concrete, Class A (culverts), $12; 20 cu. yds. cement concrete, Class B (culverts and monuments) $9; 70 monuments (haul and set), ea., $1 total, $14,443. Totals of next 3 lowest bids: Hard Bros., Sacramento, $19,018; O'Brien Bros., Sausalito, $19,097; W. J. Schmidt, Berkeley, $19,735; Engineer's estimate, $18,511.
Mendocino County, Div. 1, Route 1, Sect. B—Lowest bidder, Hard Bros., Sacramento, as follows: 63,610 cu. yds excav. (without classification), 58 cts. 1462 lin. ft. 12-in. cor. iron pipe, $1; 10 lin. ft. 15-in., $1; 310 lin. ft. 18-in., $1 106 lin. ft. 24-in., $1; 718 cu. yds. cement concrete, Class B (culverts and monuments), $11; 3930 cu. yds. cement concrete, Class B (pavt.), $4.80; 11 mile property fences (move and reset), $200 50 monuments (haul and set), ea., $2 total, $68,386. Totals of other bids: Fairbanks & Baechtel, Willits, $78,629; Enoch J. Hunt, Alameda, $98,925; Engineer's estimate, $78,322.
★Humboldt County, Div. 1, Route 1, Sect. C—Awarded to Fairbanks & Baechtel, Willits, as follows: 149,100 cu. yds excav. (without classification), 74 cts. 3926 lin. ft. 12-in. cor. iron pipe, 70 cts. 836 lin. ft. 15-in., 80 cts.; 86 lin. ft. 18-in. $1; 506 lin. ft. 24-in., $1.50; 240 lin. ft 30-in., $2; 340 cu. yds. cement concrete Class B (culverts and monuments), $15 478 monuments (haul and set), ea., $1.50 total, $120,893. Totals of next 3 lowest bids: Berry, Mackie & Co., San Francisco, $123,985; Wm. Crowley & T. E. Cloney, Eureka, $125,132; F. Rolandi, San Francisco, $130,677.
Santa Clara County, Div. 4, Route 5, Sect. A—Lowest bidder, Parrott Bros. Co. Salt Lake City, Utah, as follows: 13,000 cu. yds. excav. (without classification) 60 cts.; 1464 lin. ft. cor. iron pipe, 40 cts. 40 lin. ft. 15-in., 60 cts.; 72 lin. ft. 18-in. 80 cts.; 45 cu. yds. cement concrete Class A (culverts), $8; 10 cu. yds. cement concrete, Class B (culverts and monuments), $10; 8960 cu. yds. cement concrete, Class B (pavt.), $1.975; 400 lin ft. guard rail, 30 cts.; 80 monuments (haul and set), ea., $1.25; total, $26,843 Other bidder: John W. McDonald, Jr. San Jose, $36,697; Engineer's estimate $40,533.

**Colusa, Cal.**—Bonds in sum of $125,000 reported sold for constructing State highways in this county.

**Hanford, Cal.**—Bonds in sum of $675,000 for construction of roads in this county will be submitted to voters in fall.

★**Los Angeles, Cal.**—Contract for paving Westmoreland Ave. awarded by Bd. Pub. Wks. to California Arizona Constr. Co., at $5,329.

★**Los Angeles, Cal.**—Contract for improving the Hoolywood Blvd. and other streets awarded to Jas. Kennedy Co. at $157,458. Work to include asphalt paving cement curbs, sidewalks, granite block gutters, storm drains, and culverts.

★**Richmond, Cal.** — Contract reported awarded to L. L. Page for paving Clinton Ave., at $16,093.

**San Francisco, Cal.**—Plans and specifications reported approved by Bd. Pub. Works for paving of Kansas St. from Army southerly with asphalt.

★**Willows, Cal.** — Contract reported awarded to Clark & Henry Constr. Co., at $18,000, for paving Tehama St.

★**Nogales, Ariz.** — Contract awarded Aug. 5 for constructing 4 miles of State highway to Griffith, Paechco Co., Tucson at $7,490. Lula Reddoch Wood, Clk. Bd. Superv.

★**Logan, Utah**—Contract awarded Aug. 11 for concrete sidewalks in Dist. No. 1 to Ryberg Bros., Logan, at $11,996. Other bids: Nelson, Worley & Nelson, Logan $13,098; Parrott Bros. Co., Preston, Idaho $13,860; Leroy S. Hill, Wellsville, Utah $14,491.

★**Lewiston, Idaho.** — Contract reported awarded to Ed. McGary for laying concrete sidewalks here as follows: Concrete curb, 35 cts. per ft.; concrete walks, [illegible] cts. per sq. ft.; 14 cts. per sq. yd. for alley crossings, 40 cts. per cu. yd. for walls and 35 cts. per cu. yd. for fill.

★**Twin Falls, Idaho.**—Contract reported awarded to Slick Bros., Boise, for constructing State highway through this county.

*★Items marked thus give the names of parties awarded contracts.*

**Halifax, N. S.**—Bids desired until Aug. 24 (extension of date from Aug. 19) by the Mayor for constructing granite block and sheet asphalt or bitulithic pavement. J. Hopewell, Clk. of Wks.

**Rockville, Ont.**—City Council voted to pave with bituminous pavement on Church St. at about $18,488.

**Vancouver, B. C.**—City Council voted to pave with bitulithic Oak Bay Ave. and Dallas St., at cost of about $13,911.

## STREET CLEANING AND GARBAGE DISPOSAL.

*Items Arranged Geographically*

**Washington, D. C.**—Bids desired until Oct. 15 by Comrs. D. C. for collection and disposing of garbage, ashes, miscellaneous refuse and dead animals in Dist. of Columbia, for a period of 1, 3 and 5 yrs. from July 1, 1915, advertised in Engineering Record.

**Columbus, O.**—Contract awarded to Edgar H. Latham for erecting new incinerator to be installed by city in old pumping station; at $18,140.

**Sheboygan, Wis.**—Question of constructing incinerator under consideration by Common Council.

**San Antonio, Tex.**—Bids desired until Aug. 31 (extension of date from Aug. 24) by City Clerk, for furnishing and erecting either 2 garbage incinerators of 45 tons daily capacity, or 3 garbage incinerators of 30 tons daily capacity; advertised in Engineering Record.

**Toronto, Ont.**—The Com. on Works, Aug. 6, decided to ask Council to spend $4,000 on a plant for total incineration of garbage and on a reduction plant. Instead of having one central plant at Ashbridge's Bay as proposed in former recommendation, it is proposed to provide plants at either of following locations: Cattle Market Annex and in eastern section of city, or Cattle Market Annex, northwestern and eastern sections of city, with loading station in northern section.

## HYDRAULIC CONSTRUCTION AND RIVER IMPROVEMENTS.

*Items Arranged Geographically*

**Dam—Swanton, Vt.**—Contract reported awarded by Swanton Dam Co. to F. P. Cumings Const. Co., Ware, Mass., for cement dam to replace present wooden one in Missisquoi River. It will be 325 ft. long and 10 ft. high, with piers and abutments at each end.

**Harbor Improvement—Norwalk, Conn.**—Improvements to Norwalk Harbor at a cost of $206,000 have been recommended by the Army Engrs. Their plan calls for a channel 10 to 12 ft. deep and 100 to 250 ft. wide to highway bridges at South Norwalk and East Norwalk and a 17-acre anchorage basin.

**State Canal Work—Albany, N. Y.**—Bids opened Aug. 11 by State Supt. Pub. Wks. for constructing lock and removal of existing tide gates in Shinnecock and Peconic Canal: (a) Engineer's estimate; (b) Riverside Contr. Co., 39 Cortlandt St., New York, $38,366; Tuttle & Raynor, Estport, $40,430.

Unit prices, (a) and (b):

| | (a) | (b) |
|---|---|---|
| 400 cu. yds. excav. | $0.50 | $0.25 |
| 4 M ft. sheeting and bracing | 50.00 | 40.00 |
| 300 cu. yds. embankment | .10 | .10 |
| 1 M ft. sawed lumber, yellow | 175.00 | 150.00 |
| 1 M ft. sawed lumber, white oak, in mitre sills and gates | 150.00 | 150.00 |
| 1100 lin. ft. foundation piles | .35 | .35 |
| 6 M ft. wooden sheet piling | 75.00 | 70.00 |
| 200 cu. yds. 2d-class concrete | 8.00 | 8.00 |
| 500 lbs. structural steel | .06 | .06 |
| 400 lbs. iron castings, plain | .03 | .03 |
| 400 lbs. iron castings, machined | .12 | .12 |
| Pumping, bail, and drain. (lump sum) | 4,500.00 | 4,165.00 |
| Removing tide gates (lump sum) | 300.00 | 300.00 |

**Pier Repairs—New York, N. Y.**—Bids opened Aug. 14 by Dept. Docks and Ferries for repairs to pier at E. 117th St., Harlem River, Boro. Manhattan. Allen N. Spooner & Son, Inc., $7,450; Co. B. Spearin, $6,461; Riverside Contr. Co., $6,243; N. Y. Submarine Contr. Co., $995; Phoenix Constr. Co., $7,938.

**State Canal Work—Albany, N. Y.**—See under "Bridges;" also under "Paving and Roads."

**State Canal Work—Albany, N. Y.**—Bids were opened Aug. 11 by State Supt. Pub. Wks. for Contract 1-A—Champlain Canal—Sec. 2—Completing construction of canal from Crocker's Reef to Ft. Edward. Length, 4.45 miles: (a) Engineer's estimate $90,811; (b) Holler & Shepard, Rochester, $120,459; (c) I. M. Ludington Sons, Inc., Rochester, $127,787:

| | (a) | (b) | (c) |
|---|---|---|---|
| 73,700 cu. yds. excav. | $1.20 | $1.60 | $1.70 |
| 2,000 cu. yds. forming embankment | .18 | .19 | .185 |
| 520 sq. yds. finishing concrete surfaces | 1.80 | 1.92 | 1.90 |
| 430 cu. yds. wash wall | 2.50 | 2.70 | 2.65 |

**Lock Gates—Troy, N. Y.**—Bids desired until Aug. 25 by Col. W. M. Black, Corps Engrs., U. S. A., First Dist., New York City, for furnishing and erecting 3 sets of steel miter lock gates at Troy Lock, Hudson River, Troy, advertised in Engineering Record.

**Harbor Improvements—Troy, N. Y.**—The River Front Comn. recent appointed by Mayor Cornelius F. Burns, of Troy, to prepare plans for improving Troy's river front, has engaged E. J. Clapp, Boston, Mass., to map a plan for betterment.

**Dredging and Bulkhead—Newark, N. J.**—Bids desired until Sept. 3 by Bd. Street & Water Comrs. for dredging in Newark Bay and constructing bulkhead.

**Terminal Basin and Bulkhead—Trenton, N. J.**—Bids desired until Sept. 4 by City Clerk for construction, timber and concrete bulkhead and necessary dredging therefor on Delaware River, near Ferry St., separate bids to be submitted for dredging of basin adjoining above bulkhead, advertised in Engineering Record.

**Bulkhead — Wilmington, Del.**—Lowest bid opened Aug. 10 by Maj. E. N. Johnston, Corps Engrs., U. S. A., Wilmington, for constructing pile and timber bulkhead on Christian River, Del., submitted by Edw. F. Fonder Co., 1116 Land Title Bldg., Philadelphia, Pa.

**Dredging—Wilmington, Del.**—Bids desired until Sept. 8 by Maj. E. N. Johnston, Corps Engrs., U. S. A., Wilmington, for dredging in Tuckerton Creek, N. J.

★**Drainage—Concord, N. C.**—Contract reported awarded by Drainage Comrs. for draining Coddle Creek to Thompson & Mosely, Greensboro, at $11,800.

**Docks—Charleston, S. C.**—The Southern Ry. Co. (W. H. Wells, Washington, D. C., Ch. Engr. of Construction) and the Holston Cor., a subsidiary of the Carolina, Clinchfield & Ohio R. R. Co., are both considering the erection of docks at Charleston.

**Revetment Wall—Indian Lake, O.**—Bids desired until Sept. 4 by Dept. Pub. Wks. for constructing revetment walls at Indian Lake, advertised in Engineering Record.

★**Ditch—Napoleon, O.**—Contracts for construction work on Christ Schwiebert joint Henry-Putnam County ditch, No. 1274, reported awarded Aug. 10 in ½-mile sections to 5 bidders as follows: Wm. Hines, of West Hope; J. H. Loe, Fostoria; D. G. Watson, Malinta; Ezra Baker Arcanum; John Spangler, New Bavaria; total cost $10,073.

**Ditch Work—Valparaiso, Ind.**—Bids desired until Sept. 14 by Comr. of Constr. at Valparaiso for constructing drain known as Calumet and Burns Ditches. Guy F. Stanchfield, Engr., Valparaiso. Frank B. Pattee, Attorney, Crown Point, Ind.

**Levee Work—Naples, Ill.**—Bids desired until Aug. 31 by River and Lakes Comm., Transportation Bldg., Chicago, for raising and enlarging levees about the Village of Naples.

**Ditch—Slayton, Minn.**—All bids opened Aug. 11 by County Auditor for constructing Judicial Ditch No. 2, aggregating in length 94,275 ft. have been rejected, and new bids desired about Oct. 1.

Following are the bids received Aug. 11: Redding & Smooge, Windom, $54,900; Barrist & Sedgley, Worthington, $55,000; Jas. Gerding, FaxSak, $54,500; S. P. Axelsen, Clear Lake, Ia., $53,750; Chris. Axelsen, Clear Lake, Ia., $54,100.

**Drainage—Pittsfield, Ill.**—Bids desired until Aug. 28 by Sny Island Levee Drainage Dist. Comrs., Pittsfield, for excavating about 560,000 cu. yds. of earth work. The work consists of cleaning out and straightening and deeping canal for a distance of 7 or 8 miles. E. J. Chamberlain, Engr., Pittsfield.

**Dam—Cedar Rapids, Ia.**—Bids desired until Sept. 1 by City Clerk for constructing concrete and steel dam, boat lock, head race, tail race and boat channel; probable cost $125,000.

**Drainage—Poplar Bluff, Mo.**—Plans for drainage and protection from floods of Inter-River Drainage Dist. of Missouri have been completed by Morgan Eng. Co., of Memphis, Tenn., and adopted by Bd. of Supervisors of Dist. The Dist. embraces 127,500 acres in Butler County, lying between Black and St. Francis Rivers, and bounded on north by Ozarks and on south by Arkansas State line, 58 miles of levees, requiring over 2,500,000 cu. yds. earth have been planned as a protection from these rivers. The levees are planned with a top width of 6 ft., side slopes 2 to 1, and have average heights of from 8 to 11 ft.; greater part of them can be constructed with dipper dredges. In addition to levees a system of ditches has been planned; they range in bottom width from 12 to 55 ft., and in depth from 7 to 13 ft. The 39 ditches in the system have a total length of 208 miles and require excavation of nearly 8,000,000 cu. yds. of earth, 55 wooden bridges will be constructed at points where ditches intersect public highways; total estimated cost of construction is about $1,250,000. Contracts will be let as soon as the assessment roll can be completed and confirmed by court, which will require about 6 months.

**Drainage—St. Louis, Mo.**—Bids desired until Sept. 11 by Mississippi River Comn., International Bldg., St. Louis, for constructing about 88,000 cu. yds. earthwork in Hunt Drainage Dist.

**Levee—Eagle Lake, Tex.**—It is proposed to construct levee along Colorado River near Eagle Lake, total length 8 miles, to protect from floods and drains and reclaim as part of improvements 14,000 acres of land. Cost $75,000. J. C. Nagle, Austin, Chmn. Bd. State Engrs.

**Docks—Astoria, Ore.**—Port of Astoria Comn. adopted plans for superstructure of municipal docks and bids will be opened about Sept. 1; main building will be 2 stories high and will contain accommodations for both freight and passengers; plans also provide for storage of about 20,000 tons of coal.

**Concrete Wall—Los Angeles, Cal.**—City Council considering construction of reinforced concrete retaining walls along Arroyo Seco, to protect property from floods.

**Pier—Redondo Beach, Cal.**—Ralph Hansen, City Engr., preparing plans for a municipal pleasure pier; cost, about $120,000.

★**Irrigation—Phoenix, Ariz.**—Contract awarded by U. S. Reclamation Service to S. Morgan Smith Co., York, Pa., for a variable head turbine for the Salt River Irrigation project, Ariz.; contract price, $18,185.

## POWER PLANTS.

*Items Arranged Geographically*

**Augusta, Me.**—The Bangs Power station of the Central Maine Power Co. reported to have been seriously damaged by fire.

**Lebanon Springs, N. Y.**—Lebanon Valley Lighting Co. reported incorporated to operate in Lebanon Springs, New Lebanon, New Lebanon Center and West Lebanon; capital $10,000. Directors: Fred W. Munch, Dalton, Mass.; John McCarthy, Indian Orchard, Mass.; Robt. W. Munch, Binghamton, N. Y.

★**Paterson, N. J.**—Contract reported between Society for Establishing Useful Manufactures and the John W. Ferguson Co. for erection of auxiliary steam power plant at the falls, has been filed at office of County Clerk; cost about $45,000.

**Rockmart, Ga.**—Citizens voted Aug. 8 to enlarge electric light plant. A. H. Graefer, City Clk.

**Bay Minette, Ala.**—See "Water Works."

**Friendship, Tenn.**—Business Men's League (W. C. Jones, Secy.) promoting installation of an electric light plant and water works.

**Millersburg, O.**—Citizens voted to issue $35,000 bonds for a municipal lighting plant.

**Montello, Wis.**—Montello & Harrisville Electric Light & Power Co. incorporated with a capital of $40,000 by D. W. McNamara, L. G. Miller and others.

**Charter Oak, Ia.**—Citizens reported to have voted to issue bonds for the construction of an electric light plant.

**Blair, Neb.**—City Council reported considering question of calling election to vote bonds for municipal electric light plant.

**Butler, Mo.**—It is proposed to install new electric light and power plant with water works improvements. Harper & Stiles, Engrs, Kansas City.

**Marshall, Ark.**—Town Council granted A. B. and V. B. Johnson, Mgrs. of Marshall Milling Co., an electric light franchise for a period of 40 years.

**Three Rivers, Tex.**—Directors of Hamilton Townsite Co. decided to install a 25-kw alternating current electric light plant for the town of Three Rivers.

**Nehalem, Ore.**—Bids desired by H. C. Randle, City Recorder, until Aug. 24, for the purchase of bonds, to be used for constructing electric light plant, purchase water works and install reservoir.

## ELECTRIC RAILWAYS.

*Items Arranged Geographically*

**Boston, Mass.**—See "Miscellaneous."

★**Norwalk, Conn.**—Contract awarded by the Norwalk & New Canaan St. Ry. to Conklin & McGrath Co., New York, to build a line between Norwalk & New Canaan.

**Ithaca, N. Y.**—Ithaca Traction Co., successor to Ithaca St. Ry. Co., has been authorized to execute a mortgage to secure an issue of $2,000,000 in bonds. Of the new bonds, $211,000, together with $400,000 in capital stock, will be issued to acquire all the properties of the Ithaca Street Ry. Co., which include Remington power plant with equipment and machinery. In addition $277,000 of the new bonds are to be issued to provide funds for extensions and improvements, including double tracking, new bridges, new equipment, generators, boilers and other power-house apparatus.

**New Smyrna, Fla.**—S. E. Carmichael, Lake Helen, is reported interested in company which intends building an electric railway between New Smyrna, Lake Helen and the St. Johns River.

**Opelika, Ala.**—Council has granted a 30-year franchise to W. L. Carmack, and associates for the construction of a street railway on certain streets. Franchise has also been granted to W. L. Carmack in the city of Auburn, for the building of an electric railway, and it is said to be the purpose of the company to construct an electric railway between Auburn and Opelika.

**Chardon, O.**—Chardon, Jefferson & Meadville Interurban R. R. Co., 735 Williamson Bldg., Cleveland, has had surveys made for an electric line between Chardon and Jefferson, a distance of 30 miles, and contemplates in the future extending to Linesville, Pa., a distance of 18 miles. F. A. Pease, Ch. Engr., Cleveland.

**Pomeroy, O.**—Ohio River Electric Ry. & Power Co. incorporated to build an electric railway. I. L. Oppenheimer, J. W. Wolfe, and others, incorporators.

**Belleville, Ill.**—The East St. Louis & Suburban Ry. Co. (L. C. Haynes, Gen. Mgr.) intends double tracking the line on East Main St.

**Rock Falls, Ill.**—Rock Falls & Southern Traction Co. (And. S. Goodell, Secy.) considering plans for building line this fall which will connect Sterling, Ladd, Rock Falls, New Bedford, Tampico, Princeton, Setonville and Kewanee.

**Bonner Springs, Kan.**—Plans being made by the Kansas City, Kaw Valley & Western Ry., Bonnier Springs, to begin work on the extension between Bonnier Springs and Lawrence via Union Pacific right of way.

**Neodesha, Kan.**—Franchise granted to Independence, Neodesha & Topeka Traction Co. to construct a 17-mile line connecting Independence, Neodesha, Altoona and Topeka. T. J. Booth, Independence, Pres.

**Palestine, Tex.**—Application will soon be made, it is reported, to City Council by W. P. Brashier, of Corpus Christi, for a franchise to construct an electric railway in Palestine.

**Everett, Wash.**—Everett Ry., Light & Water Co., a subsidiary of the Stone & Webster Corporation, has applied to Council for a franchise to extend the line down Maple St. to First and west on First to the corner of Cedar St.

**Milwaukee, Ore.**—L. H. Campbell has applied to Council for franchise to construct an electric railway.

**Niland, Cal.**—Arthur E. Hull, P. A. Raab, and others, are interested in building an electric railway between Niland, Blythe and Seeley.

**Phoenix, Ariz.**—The franchise and other holdings of the Salt River Valley Electric Co. have been purchased by R. W. Martin, of New York, N. Y., and associates, who, it is reported, propose to construct an interurban electric railway between Phoenix and Mesa, via Tempe, a distance of 18 miles. An electric power plant will be built in connection with project.

**Edmonton, Alta.**—Bylaw has been passed authorizing City Council to spend $168,000 on electric railway improvements in Edmonton. Plans being considered for the building of a line from Edmonton to Ft. Saskatchewan.

## RAILROADS.

*Items Arranged Geographically*

★**Charlottesville, Va.**—Contract reported awarded by Southern Ry. to W. W. Boxley & Co., Roanoke, for construction of 7 miles of second track on Washington division between Charlottesville and Arrowhead, Va.

**State Canal Work—Albany, N. Y.**—Bids opened Aug. 11 by State Supt. Pub. Wks. for Terminal Contract 34—Constructing dockwall on east bank of Hudson River at Thomson, near Northumberland dam: (a) Engineer's estimate; (b) Champlain Eng. & Constr. Cor., Saratoga Springs; (c) E. H. Brown, Hempstead, L. I.; (d) Flood & Van Wirt Co., Hudson Falls; (e) Holler & Shepard, Rochester:

| | (a) | (b) | (c) | (d) | (e) |
|---|---|---|---|---|---|
| 1000 cu. yds. excav. | $0.50 | $0.50 | $0.49 | $0.50 | $0.45 |
| 10.4 M ft. sawed lumber | 55.00 | 50.00 | 59.00 | 60.00 | 55.00 |
| 200 cu. yds. stone filling | 2.50 | 2.00 | 2.00 | 2.25 | 2.50 |
| 550 cu. yds. second class concrete | 7.50 | 6.50 | 7.75 | 7.50 | 7.50 |
| 1000 lbs. structural steel | .07 | .06 | .056 | .07 | .07 |
| 240 lin. ft. malleable cast-iron nosing | 1.50 | 1.35 | 1.25 | .05 | 1.50 |
| 500 lbs. iron castings, plain | .05 | .04 | .04 | .05 | .05 |
| 40 fender fastenings | 1.25 | 1.25 | 1.00 | 1.25 | 1.25 |
| Removal of old timber bulkhead (lump sum) | 100.00 | 50.00 | 80.00 | 100.00 | 100.00 |

★*Items marked thus give the names of parties awarded contracts.*

★**New River, Tenn.**—Contract reported awarded to Dunn & McCarthy, Chicago, Ill., for construction of a second track on C. N. O. and T. P. Ry., 8.9 miles, between Tunnel 15, just south of New River, Tenn., and Tunnel 16, just north of Sunbright, Tenn.

★**Paducah, Ky.** — Contract reported awarded by Paducah & Illinois R.R. Co. for construction of a line from Paducah to the Burlington bridge, 12 miles below Paducah, to Morse, Shepard, Dougherty & Co., St. Paul, Minn.

## PUBLIC BUILDINGS AND SCHOOLS.

*Items Arranged Geographically*

★**Exeter, N. H.**—Contract for erecting academy building for Phillips Exeter Academy awarded to J. T. Wilson & Son, of Nahant, Mass.

**Lawrence, Mass.**—School Com. considering plans for the central grammar school; cost $300,000.

**West Springfield, Mass.**—Plans being prepared by Bliss & Lavelle for the 3-story brick high school.

**Bridgeport, Conn.**—Bids desired until Aug. 31 by Bd. Educ. for erecting a brick addition to Bryant School, Maplewood Ave. and Poplar St. C. T. Beardsley, Archt., Bridgeport Savings Bank Bldg.

★**Stratford, Conn.**—Contract for erecting the addition to Franklin School awarded to Wales-Lines Co., Meriden, at about $20,000.

★**Stamford, Conn.**—Contract awarded July 27 for erecting school at Adams St. to Vinono Constr. Co., Stamford, at $56,-640. Emmons & Abbott, Archts., Washington Bldg.

**Albany, N. Y.**—Bids desired by State Architect until Sept. 8 for finishing hardware for certain corridors and rooms in new State Capitol, advertised in Engineering Record.

**Bath, N. Y.**—Bids desired until Sept. 8 by Bd. Trus. N. Y. State Soldiers and Sailors' Home, Bath, for two 125-hp boilers at the said home, advertised in Engineering Record. Lewis F. Pilcher, State Archt., Albany.

**Glens Falls, N. Y.**—Bids desired until Sept. 2 by Bd. Educ., Union Free School Dist. No. 1, Town of Queensbury, at office of Chas. E. Bulard, Glens Falls, for erecting a school at Glens Falls. Tooker & Marsh, Archts., 101 Park Ave., New York.

★**Manchester, N. Y.** — Contract for erecting a brick concrete and steel fireproof high school awarded to F. H. Johnston Co., Newark, N. Y., at $25,400.

Bids for the heating, plumbing and wiring above school rejected, and new bids to be asked by Bd. Educ. Bickford & Pierce, Elmira, Archts.

★**New York, N. Y.**—Contract for ventilating, electric wiring and conduits for U. S. Post Office warded to Evans Admirall Co., 7 Dominic St., at $11,980.

★**Poughkeepsie, N. Y.**—Contract for erecting brick and reinforced concrete addition to Vassar Brothers' Hospital awarded to Edgar V. Anderson at about $40,000.

**Rochester, N. Y.**—Plans for 3-story brick and steel high school for the Nazareth Academy, Jay St., have been prepared by Jos. H. Oberlies, Granite Bldg.; cost $150,000.

**West Haverstraw, N. Y.**—Bids desired until Sept. 5 by President Bd. Mgrs., N. Y. State Hospital for Cripple and Deformed Children, West Haverstraw, advertised in Engineering Record. Lewis F. Pilcher, State Archt., Albany.

**Elizabeth, N. J.**—Lowest bid received Aug. 13 by Bd. Educ. for erecting the school at Grove and Murray Sts. was submitted by Edw. M. Waldron, Inc., Newark, at $73,392; and for heating and ventilating apparatus from E. G. Woolfolk, New York, at $8,939.

**Hackensack, N. J.**—Bd. Educ. considering erecting a high school estimated to cost $100,000.

**Millburn, N. J.**—New bids desired until Aug. 27 for plumbing in addition to Short Hills high school. Address Clifford Willis, District Clk.

**Newark, N. J.**—Plans for administration building to be erected in Branch Brook Park for the County Park Comrs. are to be prepared by H. Van Buren Magonigle, 101 Park Ave., New York; cost $100,000.

**New Brunswick, N. J.**—Competitive plans are to be received for the high school. Alex. Merchant, New Brunswick, Comm. Bldg. Com Bd. Educ. Cost not to exceed $150,000.

**Passaic, N. J.**—Bids reported desired until Sept. 8 by Bd. Educ., for erecting 3-story and basement fireproof school, to be known as No. 12; separate bids for heating and ventilating, vacuum cleaning system, electric wiring, etc. John F. Kelly, Archt., Post Office Bldg.

**Secaucus, N. J.**—Bids reported desired by the Hudson County Bd. Freeholders, Jersey City, for erecting the new tuberculosis hospital at Snake Hill, Secaucus.

**Bellevue, Pa.**—Bids desired until Aug. 24 by Secretary Bd. Educ., for installing ventilating and heating in Bellevue High School. W. J. Shaw, Archt., Fulton Bldg., Pittsburgh.

★**Bellevue, Pa.**—Contract for general construction of high school, from plans of W. J. Shaw, Fulton Bldg., Pittsburgh, awarded Aug. 10 to Dawson Constr. Co., Pittsburgh, at $133,520. Next 3 lowest bids: Rose & Fisher, Pittsburgh, $146,990; B. A. Groah Contr. Co., Pittsburgh, $147,-820; A. & S. Wilson, $149,999.

★Contract for plumbing high school awarded to Beurkle Plumbing Co., at $8,525. Other bids for plumbing: Knoxville Plumbing Co., $10,821; W. N. Sauer Plumbing Co., $8,714; Moss & Bleakley, $9,065; John M. Tate, $11,323.

★**Forest City, Pa.**—Contract for erecting the 2-story brick school, costing $40,000, awarded to Holt Lumber Co., 61 N. Main St. Percival J. Morris, Archt., Burr Bldg., Scranton.

★**Leisenrung, Pa.**—Contract for erecting annex to high school at Leisenring No. 1, awarded by the Dunbar Township School Bd. to J. M. Pyle, of Scottdale, at $27,850. Next 2 lowest bidders: Connellsville Constr. Co., $27,995; and Walters & Jones, Scottdale, at $29,029. And. P. Cooper, Archt., Uniontown.

★**Norristown, Pa.**—Contract for erecting 8-room school in Dist. of Plymouth Township awarded to Alex. Chambry, Philadelphia, at about $20,000.

**Philadelphia, Pa.**—Bids reported desired by Bd. Pub. Educ. for erecting the Frankford High School; estimated cost $650,000.

★Contracts awarded as follows on bids opened Aug. 14 by Bd. Educ. for erecting the South Philadelphia High School: General contract, to Cramp & Co., at $518,518; heating and ventilating, to Thompson Bros., at $52,775 and $7,900, respectively; plumbing, W. G. Cornell Co., $19,500; electrical work, Cates & Shepard, $26,500 Bidders all of Philadelphia.

**Pittsburgh, Pa.**—Bids desired until Aug. 27 by Bd. Pub. Educ., general repairs and alterations in Brasgear, East St., Larimer and Osceola Sts. Schools, also separate bids for neating, plumbing, etc.

★**Rochester, Pa.**—Contracts for rebuilding Pinney St. School awarded as follows: General contract to McDonald & Hartman, Water St., at $32,200; heating and ventilating, Jos. A. Langdon & Son, Pittsburgh, $6,494; plumbing, H. E. Leisure, Rochester, $1,874. Geo. H. Karcher, Secy. Bd. Educ.

An architect is soon to be selected for the other high school contemplated here, at a cost of $100,000. Geo. H. Karcher, Secy. Bd. Educ.

**Warren, Pa.**—Plans for addition to hospital, and costing $35,000 are to be repared by C. C. & A. L. Thayer, New Castle.

★**Wilmington, Del.**—Contract for the concrete work in connection with the new court house and municipal building awarded to J. A. Bader Co., Wilmington, at $35,260 for both buildings. (Bids opened Aug. 11).

★**Cumberland, Md.**—Contract for erecting the addition to the Western Maryland Hospital awarded to Wright, Richardson & Co. at about $18,000.

**Towson, Md.**—Bids reported desired by Parker, Thomas & Rice, Archts., Baltimore, for second building, brick and stone, to be erected at the Normal School, York Rd., Towson.

★**Emory, Va.**—Contract for erecting the science building at the Emory and Henry College awarded to John P. Pettyjohn & Co., Lynchburg.

**Roanoke, Va.**—Bids desired until Sept. 15 by City Clerk for erecting City Hall. F. L. Gibboney, City Engr.

**Athens, Ga.**—Bill has passed the State Senate appropriating $15,000 for building new heating plant in the State Normal School.

★**Fort Myers, Fla.**—Following are bids received for erecting the court house: F. P. Heifner, Atlanta, Ga., $64,900 (awarded contract); Cahow & Parker, Tampa, $83,-470; Bates & Hudnell, Tampa, $84,000; J. F. Jenkins, Ocala, $87,000.

**Pensacola, Fla.**—Bids desired until Sept. 15 by Superv. Archt., Washington, D. C., for making betterments in U. S. Post Office and Court House, advertised in Engineering Record.

**Greenville, Miss.**—Plans prepared for high school, to cost $45,000. Address School Bd.

**Chattanooga, Tenn.**—Citizens voted $200,000 school extension and improvement bonds and $100,000 bonds for improving the Erlanger Hospital.

**Memphis, Tenn.**—Bids reported desired until Aug. 24 by Bd. Educ for erecting the Prescott School according to plans by Jones & Furbringer, Porter Bldg.

**Georgetown, Ky.**—Following are four lowest bids received Aug. 12 by Superv. Archt. Washington, D. C., for erecting U. S. Post Office (a) limestone, (b) sandstone: N. H. Shields, Danville, Ill., (a) $64,100; W. H. Fissell & Co., New York, N. Y. (a) $63,733; (b) $66,733; J. S. Rogers Co., Moorestown, N. J. (b) $68,000; Geo. Becking, Chattanooga, Tenn. (a) $61,812, (b) $64,812; Westchester Eng. Co., White Plains, N. Y. (a) $63,800 (b) $70,000.

**Covington, Ky.**—Plans of Weber, Werner & Atkins, Cincinnati, O., selected for the new high school.

**Louisville, Ky.**—Bids desired until Aug. 26 at office of Business Director, Bd. Educ., for additions and alterations to Duncan Street School, 17th and Duncan Sts.; also additions and alterations to heating plant.

★**Pikeville, Ky.**—Contract for erecting the combined city and county high school awarded to O. P. Raymond Co., Cynthiana, Ky.; cost about $60,000. Weber, Werner & Adkins, Cincinnati, O., Archts.

**Cleveland, O.**—Bids desired until Aug. 25 (extension of date) by Commissioner Purchases and Supplies, for completing superstructure of new City Hall, which comprises the following: Masonry; ornamental iron and bronze work; sheet metal work; carpentry; marble work; ventilating and heating; plumbing and gasfitting; vacuum cleaning; electric wiring; pneumatic tube service; elevators, etc. J. Milton Dyer, Archt., Cuyahoga Bldg.

**Findlay, O.**—Citizens voted $300,000 bonds to erect 2 schools.

**Hudson, O.**—Later reports state that bids desired Sept. 8, Clerk Bd. Educ., for erecting 10-room grade and high school, including heating and plumbing. J. C. W. Corbusier, Archt., Lennox Bldg., Cleveland.

**Lebanon, O.**—Bids reported desired until Aug. 26 by Bd. Educ., and Weber, Werner & Adkins, Archts., Mercantile Library Bldg., Cincinnati, for erecting 1-story and basement school. Probable cost $20,000.

**Marysville, O.**—Citizens of Washington Township voted $30,000 bonds for erecting a centralized school in Byhalia.

**Mt. Vernon, O.**—Plans prepared for children's brick home to be erected by the Co. Comrs. at a cost of $21,868.

**Toledo, O.**—Bids desired until Sept. 10 by Bd. Trus., Toledo Public Library, for furnishing material and erecting an addition to said library. Mills, Rhines, Bellman & Nordhoff, Archts., Ohio Bldg.

★**Youngstown, O.**—Contracts awarded by Bd. of Educ. as follows: Lansingville School—Masonry and structural steel, Jos. Buckeit, $35,169; carpentry, C. H. Medicus, $8,302; plumbing, Vinopal Bros., $6,280. Tod Building—Masonry, Jos. Bucheit, $26,147; carpentry, Peter Nurone, $8,030; reinforced concrete floors, Jos. Bucheit, $8,705; plumbing, H. C. Teal, $6,919.

**Gary, Ind.**—Following are four lowest bids received Aug. 6 by Superv. Archt., Washington, D. C., for construction U. S. Post Office: (a) limestone, (b) sandstone: M. Yeager & Son, Danville, Ill., (a) $93,780; (b) $97,280; Westchester Eng. Co., New York, N. Y. (a) $88,360; (b) $99,000; Geo. W. Stiles Constr. Co., Chicago, Ill. (a) $92,800; J. E. & A. L. Pennock, Philadelphia, Pa. (a) $103,200, (b) $108,000; the Connors Bros. Co., Lowell, Mass. (b) $108,000; W. H. Fissell & Co., New York, N. Y. (a) $93,790.

**Terre Haute, Ind.**—Bids reported desired by the State Normal School Trus., Indianapolis, for erecting the 3-story reinforced concrete brick and steel vocational educational building for the Indiana State Normal School at Terre Haute. George, McLucas & Fitton, Archts., Indianapolis. Cost $160,000.

★**Detroit, Mich.**—Contract for erecting the high school on Josephine Ave. and Woodward Aves. awarded as follows by Bd. Educ.: Mason work, to C. A. Sauer & Co., at $213,930; carpenter work, Harcus & Co., $32,397; roofing, P. C. Bertling & Son, $12,816; steel and iron work, Lewis Hall Iron Wks., $22,260; plumbing and heating, Ernest Bros. & Co., $71,502; total $381,994.

**Dundee, Mich.**—Bids desired until Aug. 24 by Secretary School Dist. No. 5 for erecting brick school.

**Chicago, Ill.**—Bids reported desired until Aug. 24 by Bd. Pub. Wks., for constructing 4 comfort stations; separate bids for plumbing.

★**Joliet, Ill.**—Contracts for erecting an addition to the high school awarded to Alfred Wenberg & Sons, Joliet, at $33,000. Graham, Burnham & Co., Chicago, Archts.

**Milwaukee, Wis.**—Following are four lowest of the bids received by Superv. Archt., Washington, D. C., Aug. 14 for constructing the appraisers stores at Milwaukee—(a) limestone, (b) sandstone: Northern Constr. Co., (a) $89,822, (b) $90,422; F. W. Toddey & Son, (a) $91,300, (b) $91,800; General Constr. Co., (a) $94,-355, (b) $95,030; American Constr. Co., (a) $95,900, (b) $96,500.

**Oshkosh, Wis.**—Bids reported desired until Aug. 31 by Co. Bd. Supervisors, for erecting tuberculosis sanatorium. Henry Auler, Archt., Oshkosh.

★**Stevens' Point, Wis.**—Contract for erecting 2-story and basement attic addition to the State Normal School (bids opened Aug. 3) awarded as follows: General construction to T. P. Cullen Constr. Co., Janesville, $56,000; heating and ventilating Harry Sohn, Milwaukee, $7,045; plumbing, Stevens' Point Plumbing & Htg. Co., Stevens' Point, $2,849; Wm. Kittle, Secy., Normal Regents, Madison.

**Albert City, Ia.**—Bids reported desired by School Bd. until Sept. 2 for erecting fireproof modern school; also separately for plumbing, ventilation and heating. Ingold Unit System, Archts., Cedar Rapids.

**Ames, Ia** — State Bd. Educ., Des Moines, plans erecting at the Iowa State College, an animal husbandry building, costing $80,000; bacteriology and zoology building, costing $65,000, and a hospital costing $30,000.

★**Cedar Rapids, Ia.**—Contracts awarded by School Bd. as follows: Garfield School, superstructure, Guarantee Co., Cedar Rapids, $23,849; heating, plumbing and ventilation, Cyrus Metcalf, $7,900; Arthur School, superstructure, Theo. Stark, $34,-720; heating, J. H. Fenton & Co., $8,292; plumbing, E. L. Dieman, $2,512. (Bidders all of Cedar Rapids.) Harold L. Cooper, Secy. School Bd.

★**Dubuque, Ia.**—Contract for making changes in the plumbing, conduit and wiring system in U. S. Post Office awarded to Newport Contr. & Eng. Co., Newport News, Va., at $12,663.

**Hazelton, Ia.**—Bids desired until Sept. 5 by Secretary Bd. Dirs., Greeley School Dist., for erecting a school; also separately for heating and plumbing. Harry E. Netcott, Archt., Independence.

**Keokuk, Ia.**—Bids reported desired until Sept. 3 by Bd. Educ. for erecting Garfield School. H. E. Ratcliffe, Archt., Keokuk.

**Lemolle, Ia.**—Bids desired until Sept. 1 by Secretary Bd. School Dirs., at home of John Huff, President, for erecting 2-story school; also separately for heating, plumbing and electric wiring. H. E. Reimer, Archt., Marshalltown.

**Postville, Ia.**—Citizens voted $50,000 school building bonds.

**Wyoming, Ia.**—Bids reported desired until Aug. 25 by Bd. Educ. for erecting 2-story and basement, 58 x 90 ft. school. C. A. Dieman & Co., Archts., Granby Bldg., Cedar Rapids.

**Buhl, Minn.**—Bd. Educ. decided to appropriate $20,000 for a school to be erected at Spina, near Kinney.

**Crookston, Minn.**—Bids desired until 7.30 p. m., Aug. 24, by Capt. P. J. Eide, Co. I, at office of City Clerk, for erecting an armory for Co. I, 3d Infantry, M. N. G.; also separately for heating, plumbing and electric wiring. Bert D. Keck, Archt., Crookston.

★**Owatonna, Minn.**—Contract for erecting armory, reported awarded to Jas. H. Brown Co., Minneapolis, at $18,927.

**Mandan, N. D.**—Bids desired until Sept. 24 by Supervising Archt., Washington, D. C., for construction, including mechanical equipment, interior lighting fixtures and approaches of a one-story and basement Post Office at Mandan.

**Aberdeen, S. D.**—Bids reported desired until Sept. 1 by Secretary Bd. Educ. for erecting 2-story and basement, 95.5 x 60.5 ft., gymnasium for high school.

**Glendive, Mont.**—Co. Comrs. considering erecting a hospital costing $50,000.

★**Miles City, Mont.**—Contract for erecting city hall (bids opened Aug. 10) awarded to Cleannan & Co., Miles City, $27,034. J. E. Farnum, City Clk.

**Dallas, Tex.**—Bids reported desired until Aug. 28 by City Secretary for erecting a shelter house in Summit Play Park to cost $20,000.

**Sabine, Tex.**—Plans accepted by School Trus. for 2-story brick school, costing $22,000.

**South Houston, Tex.**—Bids reported desired until Aug. 24 by County Auditor, Houston, for installing heating plant at Juvenile School, South Houston.

**Uvalde, Tex.**—Bids desired until Oct. 1 by Superv. Archt., Washington, D. C., for constructing, complete (including mechanical equipment and approaches), a 1-story stone and brick U. S. Post Office, advertised in Engineering Record.

**Moison, Wash.**—Plans being prepared for a 2-story brick high school.

★**Spokane, Wash.**—Contract for erecting the 3-story brick and terra cotta science hall at Spokane Univ. awarded to Colonial Bldg. Co. at about $30,000.

**Los Angeles, Cal.**—Bd. Superv. passed a resolution to purchase about $600,000 of the school bonds voted last May for the erection of new school buildings.

★**Patton, Cal.**—Contract for erecting laundry building, Southern California Hospital, awarded July 22 by State Engineer Sacramento, to Mulder & Harnish, 143 S. Rose St., Los Angeles, at $17,389.

**San Francisco, Cal.**—Plans completed by Chas. H. Bryant, Richmond, Va., for the Virginia Building to be erected at the Panama Pacific Exposition; cost $75,000.

Bids will soon be asked for erecting the $250,000 building for the Chili Government.

Plans being prepared by J. C. Hladik, Monadnock Bldg., for the buildings for the Austrian Exhibits at the Panama Pacific Exposition; cost $80,000.

Plans completed by the City Architect's Department for the Polytechnic High School; cost $165,000.

★*Items marked thus give the names of parties awarded contracts.*

★**Riverside, Cal.**—Contract for erecting the New Magnolia and the Casa Blanca schools awarded to Cresmer Mfg. Co. at $[illegible],000.

**South Pasadena, Cal.**—Bids reported desired by City Trus. for erecting municipal building. Norman F. Marsh, Los Angeles, Archt.

**Watts, Cal.**—School building bonds amounting to $50,000 have been sold.

★**Montreal, Que.**—Contract for erecting the stadium at McGill Univ. awarded to J. A. Ott & Co.; cost about $100,000.

**Shawville, Que.**—Bids reported desired until Aug. 24 by Secretary Dept. Pub. Wks., Ottawa, Ont., for erecting public building at Shawville.

★**Ottawa, Ont.**—Contracts reported awarded by Dept. Pub. Wks., Ottawa, as follows: To Geo. A. Proctor, construction of a public building at Kingston, Ont., at $5,387; a public building to cost $18,211 at Burford, Ont., to P. H. Secord & Son, and to Dominion Radiator Co. for heating first block of Parliament Buildings at $[illegible],200.

**Toronto, Ont.**—Bids reported desired until Sept. 1 by Secretary Bd. Control, for erecting N. Yonge St. jail, 2-story and basement, 200 x 65 ft., of reinforced concrete and brick. Probable cost $80,000.

**Toronto, Ont.**—Plans being prepared for a 12-room school which the School Property Com. intends erecting in the neighborhood of Greenwood and Leslie Sts.; cost $75,000.

Bd. Control is in favor of erecting a central police, detention and police court house building to replace present jail and the offices in City Hall.

**Ft. Rouge, Man.**—Bids reported desired until Aug. 31 by Secretary Dept. Pub. Wks., Ottawa, Ont., for erecting Postal Station "C," Ft. Rouge.

**Pearl Harbor, T. H.**—Totals of bids opened at the office of Bureau of Yards and Docks, Navy Dept., Washington, D. C., for erecting 5 industrial buildings at the Naval Station, Pearl Harbor, Hawaii. (Specification 2088.) Honolulu Planing Mill, Ltd., Honolulu, $75,850; Lord-Young Engr. Co., Ltd., 12 Merchant St., Honolulu, $59,975; Spalding Constr. Co., 914 Rialto Bldg., San Farncisco, Cal., $[illegible]3,360; W. N. Concannon Co., 525 Market St., San Francisco, Cal., $63,936.

## PRIVATE BUILDINGS.

*Items Arranged Geographically*

★**Gardiner, Me.**—Contract for erecting one Roman Catholic Church awarded to F. W. Cunningham & Sons, Portland, at about $50,000.

**Manchester, N. H.**—John B. Varick Co. intends erecting a 4-story sandstone and steel hardware building, to replace building destroyed by fire.

★**Barre, Vt.**—Contract for erecting 4-story brick and granite hotel awarded to J. S. Swallow Constr. Co., Burlington.

**Fitchburg, Mass.**—Alphonse Roy intends erecting a brick and stone business building at Clarendon and Fairmount Sts.; cost $22,000.

★**Springfield, Mass.**—Contract awarded to Fred. T. Ley & Co., 307 Main St., for erecting 6-story addition to the Meekins, Packard & Wheat building at 11 Hillman St.; cost $150,000.

★**Pawtucket, R. I.**—Contract for erecting steel frame, concrete tile and brick store and office building at Broad St. and Railroad Ave. for Broad Street Power Co. awarded to B. F. Smith Constr. Co., Pawtucket; cost $125,000.

**Pawtucket, R. I.**—Plans completed for 4-story office and store building to be erected for the Broad St. Power Co., at a cost of $125,000. J. F. Payne, Mgr.

**Hartford, Conn.**—Cadwell & Jones, proposes erecting a 6-story brick building at 1082 Main St.

**Brooklyn, N. Y.**—Plans filed for a 3-story brick Y. M. C. A. Building to be erected at Hanson Pl. and Ft. Green Pl. for Y. M. C. A., 11 Bond St.; cost $977,000. Trowbridge & Ackerman, Archts., 62 W. 45th St., New York.

**Buffalo, N. Y.**—Plans being prepared by A. A. Post, Brisbane Bldg., for 3-story brick and stone Infants' Home and Maternity Building to be erected at West Seneca for Our Lady of Victory Roman Catholic Church.

**Mechanicsville, N. Y.**—Public Service Comn., Albany, has directed the Delaware & Hudson (Geo. H. Burgess, Ch. Engr., Albany) and the Boston & Maine railroads to erect a union station here costing $40,000.

**New Paltz, N. Y.**—Plans for a car barn and office of frame and sheet metal construction for the New Paltz, Highland & Poughkeepsie Traction Co., to be erected at New Paltz, are being prepared by Chas. H. Higgins, 30 Church St., New York.

★**New York, N. Y.**—Contract for erecting theatre at 126 2d Ave. awarded to Clark & Appleman, 419 E. 16th St.; cost about $100,000. Nathan E. Bloch, owner

★**New York, N. Y.**—Contract has been awarded to Geo. A. Fuller Co., 111 Bway., for erecting the 20-story office building at 6 to 10 W. 40th St. for the 8 W. 40th St. Co.; cost $500,000. Goldwin Starrett & Van Vleck, Everett Bldg., Archts.

Plans filed for a 7-story brick stores and tenement to be erected at 193d St. and Decatur Ave. for Wedgewood Co.; cost $300,000. And. J. Thomas, Archt., 2526 Webster Ave.

**Ogdensburg, N. Y.**—Knights of Pythias propose erecting an addition to the home in this city; cost $30,000. Robt. S. Waterman, Chancellor Commander, Ogdensburg Lodge.

**Syracuse, N. Y.**—Bids reported desired by M. H. Mark Realty Corporation, White Bldg., Buffalo, for erecting the Strand Theater, fireproof, terra cotta, steel and tile, at S. Salina and Harrison Sts. Thos. W. Lamb, New York, N. Y., Archt.; cost $100,000.

**Atlantic City, N. J.**—Plans for 10-story steel, brick and terra cotta addition to the Hotel Randolph prepared by V. B. Smith and Earl Henderer, Sheen Bldg., Atlantic City; cost $400,000.

Plans completed for a 6-story addition to Hotel New Princess, on S. Carolina Ave. and the Beach.

**Trenton, N. J.**—Plans prepared by Henon & Boyle, Philadelphia, Pa., for motion picture theater to be erected at 142 E. State St. by the St. Regis Corporation of Philadelphia; cost $110,000.

★**Addison, Pa.**—Contract for rebuilding Rush Hotel, 3-story brick structure, awarded to Deeter & Kendall, Meyersdale, at about $25,000.

**Easton, Pa.**—Bids reported desired until Aug. 28 by St. Luke's Evangelical Lutheran Church for erecting church and Sunday School, 1-story and basement, 46x108 ft. Probable cost, $40,000. A. A. Richter, Archt., 6th and Court Sts., Reading.

**Pittsburgh, Pa.**—Plans for the temple of the Shriners of Pittsburgh to be erected on Grant Boule., to be prepared by Harris W. Huehl, Chicago, Ill.; cost $400,000. Chas. Reiger, Assoc. Archt., 307 4th Ave., Pittsburgh.

Plans being prepared by Janssen & Abbott, Pittsburgh, for an 8 or 10 story store and warehouse to be erected for the Ft. Pitt Hotel Co. at a cost of $100,000.

★Contract for erecting the reinforced concrete warehouse at Duquesne Way and Evans Alley awarded to Nichola Bldg. Co., Pittsburgh; cost $100,000.

★**Baltimore, Md.**—Thos. B. Stansfeld & Co., secured contract for erecting 4-story brick store and warehouse at Eastern Ave. and President St., for Steuart, Knatz & Co.; cost $20,000. Haskell & Barnes, Archts.

**Wilmington, Del.**—Plans completed by Roscoe Tindall, Equitable Bldg., Wilmington, for a 4-story brick apartment house, to cost $25,000.

**Wilmington, Del.**—Hanover Presbyterian Church plans erecting an $85,000 edifice.

**Staunton Va**—Bids desired until Sept. 21 by Y. M. C. A. (C. E. Steele, Secy.) for erecting Y. M. C. A. building. Shattuck & Hussey, 19 S. LaSalle St., Chicago, Ill., and T. J. Collins & Son, Staunton, Assoc. Archts.

**Atlanta, Ga**—Local press reports state that bids desired until Aug 26 for erecting the Connally Building, Whitehall and Alabama Sts. Bids to be submitted on 10, 12 and 16 stories, respectively. W. L. Stoddart, Archt., Candler Bldg.; Dr. E. L. Connally, Owner.

**Chattanooga, Tenn.**—Plans prepared by R. H. Hunt, Chattanooga, for a church and office building to be erected for the First Christian Church at Georgia Ave. and E. 7th St.; cost $260,000.

**Memphis, Tenn.**—The grain storage warehouse of W. P. Brown & Co., recently destroyed by fire, is to be rebuilt.

★**Cleveland, O.**—Contract for erecting the St. Colman's Church on W. 65th St. awarded to Andrews Bros., Eng. Bldg.; cost about $250,000. E. J. Schneider, Archt., Cuyahoga Bldg.

**Columbus, O.**—Bids about to be asked by the Athletic Club for erecting a club house according to plans by Richards, McCarthy & Bulford, Columbus; cost $300,000.

**Columbus, O.**—Bids reported desired until Aug. 28 by Director Columbus Athletic Club for erecting club house on E. Broad St.

**Dayton, O.**—Big Four R.R. (Geo. P. Smith, Ch. Engr., Cincinnati) reported to be contemplating the erection of a terminal in this city, costing $200,000.

**Middletown, O.**—Press reports state bids will be opened Aug. 28 for erecting store and office building for Sebald Realty Co., at Middletown. G. W. Barkman, Archt., Hamilton.

**Springfield, O.**—Press reports state bids will be opened Aug. 28 for erecting lodge and commercial building for Knights of Columbus, at Springfield.

★**Youngstown, O.**—Contract for erecting Hippodrome theater and arcade building on W. Commerce St. awarded to Geo. A. Fuller Co., New York, N. Y. Knox & Elliott, Cleveland, Archts.

**Muncie, Ind.**—The International Stewards Assoc. will erect a training school in this city for hotel employees; cost $500,000.

**Battle Creek, Mich.**—Church of Christ (Disciples) intends erecting an edifice costing $50,000. Rev. M. H. Garrard, Pastor.

**Battle Creek, Mich.**—The Christian Church, Green and Pittee Sts., intends erecting a $50,000 edifice.

**Detroit, Mich.**—Makepeace & Makepeace, Chicago, Ill., are to prepare plans for a theater and amusement place to be erected at the approach to Belle Isle bridge; cost $100,000.

**Detroit, Mich.**—Bids reported desired until Aug. 24 by E. R. Dunlap, Archt., Hammond Bldg., for erecting a church. Probable cost, $35,000.

**Grand Rapids, Mich.**—Bids reported desired by Robinson & Campau, Archts., Grand Rapids, for erecting Methodist Church at Fulton St. and Barclay Ave.

★**Peoria, Ill.**—Contract for concrete foundation of 7-story terminal building for Illinois Traction Co. awarded to V. Jobst & Son, Peoria; Decatur Bridge Co. secured the contract for the steel work. The cost of building complete is to be about $450,000.

**Quincy, Ill.**—Bids reported desired by C. F. Perry, Secy. Chamber of Commerce, for erecting Chamber of Commerce Building; estimated cost $30,000. Ernest Wood, Archt., Musselman Bldg.

**Streator, Ill.**—Bids reported desired until Aug. 24 (extension of date from Aug. 17) for erecting the Y. M. C. A. Building; probable cost $40,000. W. G. Foster, Archt., Streator.

★**Madison, Wis.**—Contract for erecting Christ Church awarded to T. C. McCarthy; cost about $70,000.

**Red Oak, Ia.**—Preliminary plans prepared for the Congregational church and community house to be erected at a cost of $30,000.

★**Minneapolis, Minn.**—Contract for erecting the Judson Memorial Baptist Church, brick, stone and terra cotta, at Harriet Ave. and 41st St. awarded to F. N. Hegg, 424 4th Ave.; cost $40,000. Harry W. Jones, Archt., 916 Lumber Exchange.

★**Billings, Mont.**—Contract awarded by Montana Power Co., for erecting the 4-story office building to Seerie Bros. Constr. Co., Denver, Colo.

**Poplar Bluffs, Mo.**—Plans for Methodist Church to be prepared by John Gaisford, Memphis, Tenn.; cost $25,000. Rev. R. L. Russell, pastor.

**St. Louis, Mo.**—Missouri Athletic Assoc. contemplates erecting at 4th and Washington Sts. a club house costing $600,000.

**Malvern, Ark.**—Bids reported desired until Sept. 1 by E. O. Kilpatrick, Secy. Bldg. Com., Rockport Lodge No. 58, Masons, for erecting 2-story brick addition to Masonic Lodge.

★**Austin, Tex.**—Contract for erecting the lodge building for the Elks at 7th and Colorado Sts. awarded to Fischer & Lambie; and for heating and plumbing, to John L. Martin; cost complete, $55,000.

**Beeville, Tex.**—Bids desired until Sept. 1 by Stephenson & Heldenfels, Archts., Beeville, for erecting 60-room, 5-story, reinforced concrete frame and brick, Kohler Hotel, for Beeville Hotel Co., also separately for heating, plumbing, sewers, electric and wiring and elevator contract.

**Dallas, Tex.**—Plans adopted for the church to be known as "City Temple" to be erected at N. Akard and Burlington Sts. by the Central Presbyterian Church; cost $200,000.

**Weatherford, Tex.**—Plans of Page Bros., Austin, for the 2-story fireproof brick and reinforced-concrete Pythian Widows & Orphans' Home to be erected here have been approved at Ft. Worth by the Directors of the Home; cost $40,000.

★**Tulsa, Okla.**—Contract for erecting the Y. M. C. A. Building awarded to Brickner Laws Constr. Co., Tulsa, at $82,874.

Bids desired until Sept. 7 by C. E. Buchner, Secy., Y. M. C. A., Box 116, for heating, plumbing and electric wiring in above building.

★**Seattle, Wash.**—Contract for erecting a 3-story reinforced concrete and brick veneered apartment house at Eastlake and Mercer Sts. awarded to Pearson Constr. Co., New York Blk.; cost about $85,000. J. A. Creutzer, New York Blk., Archt.

★**Calexico, Cal.**—Contract awarded to H. J. Edwards, for erecting a 3-story brick hotel at First and Paulin Sts.; cost $25,000.

**Los Angeles, Cal.**—Davies Warehouse Co. will erect two 5-story reinforced concrete warehouses.

Plans being prepared by Reed Bros., San Francisco, for an 8-story office building eo be erected at 8th St. and Bway. for H. C. Merritt.

Engineer of the Harbor Comn. has prepared plans for 7-story reinforced concrete warehouse to be erected on the inner harbor; cost $175,000.

**San Francisco, Cal.**—Plans completed by Chas. Peter Weeks, Mutual Bank Bldg., for a steel and hollow tile residence to be erected at Octavia and Washington Sts. for Mary L. Phelan; cost $150,000.

**Prescott, Ariz.**—Erection of a $100,000 Y. M. C. A. building is under consideration.

★**Pocatello, Idaho.**—Contract for erecting railroad station for Oregon Short Line R. R. awarded to Lynch Cannon Eng. Co., Salt Lake City, Utah; cost about $150,000. Carrere & Hastings, New York, N. Y., Archts.

★**Quebec, Que.**—Contract awarded to Raymond Concrete Pile Co., Ltd., New Birks Bldg., Montreal, for foundation of freight sheds for Canadian Pacific Ry. Co., Quebec, for which Downing-Cook Co., Ltd., are general contractors.

**Calgary, Alta.**—Calgary Municipal Ry. reported to be considering the erection of a public utility building in which would be combined offices, recreation rooms for employees, public waiting room, etc.

## NEW INDUSTRIAL PLANTS.

*See also "Private Buildings."*

*Items Arranged Geographically*

**Boston, Mass.**—The United States Oxygen Co. (Jas. Carlton, Pres.) reported to have arranged for the erection of a manufacturing plant in East Boston, costing $100,000. John N. Cole, Chmn. Boston Industrial Development Bd., may be able to give further information.

**Cambridge, Mass.**—Plans have been prepared by Monks & Johnson, 7 Water St., Boston, for group of reinforced concrete factory and storage buildings which the Penn Metal Co. intends erecting on 6th, Binney and Monroe Sts.

**Franklin, Mass.**—Massachusetts Waste Co. intends erecting a plant for the cleansing of cotton waste; building and machinery to cost $75,000.

**Norwalk, Conn.**—Plans reported being prepared by H. Jacobs & Sons Co. for an addition to the factory costing $40,000.

**Buffalo, N. Y.**—Plans filed by Oliver Goldsmith for a $50,000 factory, 3 stories, reinforced concrete, to be erected at 175 Urban St.

Pratt & Lambert Co., varnish manufacturers, will erect a 3-story factory addition to the plant at Tonawanda St. and N. Y. Central R.R.

★Contract awarded to Hydro Constr. Co. for erecting steel and concrete addition to testing room of plant of Sterling Engine Co., Niagara St. and Auburn Ave.

★Contract awarded to Hydro Constr. Co. for erecting a concrete and steel factory for the Buffalo Shirt Co. at Kehr and Urban Sts.; cost $30,000.

H. O. Company will erect a steel and concrete grain storage addition to the cereal manufacturing plant on Fulton St. and N. Y. Central R.R.

**Schenectady, N. Y.**—Plans completed for 3 additional factory buildings to be erected at the plant of the General Electric Co., one 48 x 154 ft., 1 story; one 1 story, 40 x 90 ft., and one 2 story, 22 x 14 ft.

★Contract awarded to Philip Harbach Constr. Co. for erecting a 3-story baking plant for the Chas. Freihofer Baking Co.; cost $48,000. Chas. Balderston, Archt., 411 Walnut St., Philadelphia, Pa.

★**Bayonne, N. J.**—Contract for the construction of the power plant for the Aronson Bloom Silk Co. awarded to Jewel Eng. Co., Paterson.

★**Nicetown, Pa.**—Contract awarded to Wm. Steele & Sons, Philadelphia, for erecting a 5-story factory for Geo. W. Balbon & Co.; cost $500,000.

★**Philadelphia, Pa.**—Contract awarded to Turner Concrete Steel Co. for erecting 4-story reinforced concrete manufacturing plant for the Quaker City Rubber Co., at Milner and Wissinoming Sts.; cost $50,000.

**Norfolk, Va.**—Steps being taken by Arbuckle Coffee Co. to rebuild plant on Southern Branch of the Elizabeth River, which was recently destroyed by fire.

**Baton Rouge, La.**—Bids desired until Sept. 10 by John J. Mundinger, City Engr., for furnishing material and constructing a municipal abattoir.

**Cleveland, O.**—Plans prepared for a factory which Willard Storage Battery Co. plans erecting on E. 131st St. and St. Clair Ave. at a cost of $35,000.

★Star Baking Co. awarded to H. J. Slatmyer contract for erecting terra cotta and concrete, 120 x 200 ft., fireproof baking plant on Lake View Ave.

★**Youngstown, O.**—Contract for building open-hearth furnaces for the Youngstown Iron & Steel Co. awarded to the Fort Pitt Bridge Co., Pittsburgh, Pa. Contract calls for the main steel building and other steel structures to house the blooming mill, billet mill, sheet and bar mills.

★**Indianapolis, Ind.**—Contract for erecting the plant for Federal Fdry. Co. awarded to McClintic Marshall Co., Pittsburgh; cost $100,000. W. J. Carter, Cleveland, O., Engr.

★*Items marked thus give the names of parties awarded contracts.*

★**Poupore, Minn.**—Contract for erecting mill and rebuilding dam awarded to Neiland & Olson, Nevis. Dam will be 27 ft. high and 59 ft. long, contain 10,600 cu. yds. concrete, with reinforced-concrete flume and 2 retaining walls, about 58 ft. long. Mill and elevator will be 48 x 48 ft., with steel siding and equipped with up-to-date machinery.

### MISCELLANEOUS.

*Items Arranged Geographically*

*See also "Hydraulic Construction and River Improvements."*

**Tunnel — Boston, Mass.** — Bids were opened Aug. 13 by Boston Transit Comn. for building Sect. D of the Dorchester Tunnel and following are 2 lowest bids received—(a) open cut, (b) tunnel: Hugh Nawn Contr. Co., 82 Savin St., Roxbury, (a) $673,780; P. McGovern Co., 65 Oliver St., Boston, (b) $727,675.

**Cable—Boston, Mass.**—Bids desired until Aug. 26 by Fire Commissioner, Boston, for rubber insulated, lead-covered cable, comprising about 31,400 ft. 37 to 4 conductor.

**Steel and Wire—Springfield, Mass.**—Bids desired until Sept. 2 by Commanding Officer., U. S. Army, Springfield Armory, for furnishing 172,000 lbs. Class A, 25,450 lbs. Class B and 171,900 lbs. Class C steel; also 7900 lbs. Class B, 167,750 lbs. Class D and 20,600 lbs. Class E wire; also 21,345 lbs. music wire and 7100 lbs. decarbonized wire.

**Playground—Brooklyn, N. Y.**—Bids desired until Aug. 28 by Public Recreation Comn., Municipal Bldg., Boro. Manhattan, for furnishing material and constructing Betsy Head Memorial Playground and Recreation Centre, Brownsville, Boro. Brooklyn; also steam heating; also plumbing, water supply and drainage.

**Coal and Ash Handling Machinery—Philadelphia, Pa.**—See "Water Works."

**Tunnel—Pittsburgh, Pa.**—County Comrs. reported to have engaged A. N. Neeld, Hostetter Bldg., to prepare plans for a tunnel to the South Hills.

**Excavating and Filling—Baltimore, Md.**—Bids reported desired until Sept. 1 by State Roads Comn., Baltimore, for excavating and filling in the portions between the Hanover St bridge and the bridge over the main branch of the Patapsco.

**U. S. Government Supplies—Washington, D. C.**—Bids desired until Sept. 1 at U. S. Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for furnishing at U. S. Navy Yards and Naval Station supplies as follows: Norfolk, Va., Sch. 7164—60 M ft. well-seasoned and dry white pine, Nos. 1, 2 and 3. Brooklyn, N. Y., Sch. 7164—32 M ft. firsts and seconds, domestic oak; 46 M ft., merchantable grade spruce. Sandy Hook, N. J., Sch. 7174—171 tons face-hardened Class A-1, (2240 lbs. steel armor plates.) Charleston, S. C., Sch. 7165—14,100 lbs. medium black steel plates, and 7500 lbs. medium galvanized steel plates, 147 x 48½ in. x 51 lbs. per sq. ft. Boston, Mass., Sch. 7184—360,000 lbs. round iron for manufacture of chain cables. Washington, D. C., Sch. 7182—Miscellaneous round, hexagon, drawn rod brass. Sch. 7183—11,000 lbs. 1¼ x ⅛ in., with half round edges, soft black steel; 109,700 lbs. soft black sheet steel. Sch. 7182—222,800 lbs. sheet zinc. Bids desired until Sept. 8 as follows: Mare Island, Cal., Sch. 7171—50,000 lbs. copper, Grade No. 1, in 20-lb. ingots. Sch. 7170—135 M ft. merchantable unseasoned, rough commons, No. 1, Douglas fir. Sch. 7178—31,680 lbs. rails and 1640 lbs. bars; 48 M ft redwood cross ties, 6 x 8 in. x 8 ft. Sch. 7179—Miscellaneous valves. Sch. 7149—Miscellaneous black c.-i. flanged, flanges not drilled, pipe fittings. Sch. 7179—Miscellaneous malleable iron beaded black pipe fittings; also w.-i. or steel, standard threaded, black pipe. Norfolk, Va., Sch. 7189 — Miscellaneous fish plates and straight portable track steel rails. Sch. 7196—Miscellaneous pipe fittings. Washington, D. C., Sch. 7192—54,000 ft. 2-conductor cable, etc. Applications for proposals should designate the schedule desired by number.

**Steel Bars—Jacksonville, Fla.**—Bids desired until Sept. 4 by Bd. Bond Trus., for furnishing and delivering f. o. b. cars Jacksonville, approximately 62,900 lbs. 1, ¾, ½ and ⅜ in. square cold twisted steel bars; also 500 lbs. ¼ in. round steel.

**Automatic Sprinkler System—Chicago, Ill.**—Bids reported desired until Aug. 31 by Chmn. Harbor and Subway Comn. for automatic sprinkler, hydrant and standpipe systems on Pier 2, Harbor Dist. No. 1.

**Cement—Kansas City, Mo.**—Bids desired until Sept. 11 by Purchasing Agent, Kansas City, for furnishing and delivering asphaltic cement for use of municipal asphalt plant for a period of 1 yr., estimated at 1500 tons. Clark R. Mandigo, Asst. City Engr.

**Elevator — McAlester, Okla.**—Bids desired until Sept. 4 by Superv. Archt., Washington, D. C., for installing, complete, an electric elevator in U. S. Post Office and Court House, at McAlester, advertised in Engineering Record.

**Fence—Tulsa, Okla.**—Bids reported desired until Aug. 27 by County Auditor, for constructing 3970 ft. wrought iron fence around Oaklawn Cemetery, including 2 entrances with archways.

**Cranes — Seattle, Wash.**—Bids desired until Sept. 16 (readvertisement) by Port of Seattle Comn., Central Bldg., Seattle, for furnishing gantry crane at Smith's Cove improvement.

**Boilers—Levis, Que.**—Bids desired until Sept. 2 by Secretary Dept. Pub. Wks., Ottawa, Ont., for renewals of boilers of dry dock, at Levis.

**Quebec, Que.**—Bids reported desired in Sept. by J. H. Pinsannault, Archt., Quebec, for erecting fireproof grandstand. Probable cost, $100,000.

# Proposals

For Proposals Advertised see Pages 44, 45 and 46.

### WATERWORKS.

| Bids Close. | | See Eng. Record. |
|---|---|---|
| Aug. 25. | Water Wks., Riverhead, N. Y. Adv. Aug. 8, 15. | Aug. 8 |
| Aug. 25. | Pipe, Philadelphia, Pa | Aug. 22 |
| Aug. 25. | Pipe, St. Vital, Man | Aug. 22 |
| Aug. 25. | Mains, etc., Canora, Sask. | Aug. 22 |
| Aug. 27. | Works, Dalton, Neb | June 13 |
| Aug. 28. | Castings, etc., Philadelphia, Pa | Aug. 22 |
| Aug. 29. | Intake Crib, Etc., Highland Park, Mich. Adv. Aug. 15, 22. | Aug. 15 |
| Aug. 29. | Add. to Waterworks, Continental, O | Aug. 22 |
| Aug. 31. | Waterworks, Huntington, Ind. Adv. Aug. 22. | Aug. 22 |
| Sept. 1. | Pipe, Willow Springs, Mo. | Aug. 22 |
| Sept. 1. | Dam, etc., West Pownal, Me. | Aug. 22 |
| Sep. 2. | Tank and Tower, Sioux Rapids, Ia | Aug. 22 |
| Sept. 4. | Waterworks add., Parker, S. D. | Aug. 22 |
| Sep. 5. | Equipment for Filter, Dennison, Tex. | Aug. 8 |
| Sep. 7. | Add. to System, Toppenish, Wash. Adv. Aug. 15, 22. | Aug. 15 |
| Sept. 8. | Filter Plant, Wahpeton, N. D. | Aug. 22 |
| Sep. 8. | Pipe, etc., Wellington, Kan | Aug. 22 |
| Sept. 15. | Waterworks, Clinton, N. C. Adv. Aug. 22. | Aug. 22 |
| Sep. 19. | Aqueduct, Winnipeg, Man. | July 25 |
| Sept. 21. | Waterworks, Vicksburg, Miss | Aug. 15 |
| Sept. 30. | Works, Bay Minette, Ala. | Aug. 22 |

### SEWERAGE AND SEWAGE DISPOSAL.

| | | |
|---|---|---|
| Aug. 24. | Boston, Mass. | Aug. 22 |
| Aug. 25. | Enterprise, Ore. | Aug. 8 |
| Aug. 25. | Hartford, Conn. | Aug. 15 |
| Aug. 25. | Boston, Mass. | Aug. 22 |
| Aug. 26. | Greencastle, Ind. Adv. Aug. 8. | Aug. 8 |
| Aug. 26. | New York, N. Y. | Aug. 22 |
| Aug. 26. | Meyersdale, Pa. | Aug. 22 |
| Aug. 26. | Philadelphia, Pa. | Aug. 22 |
| Aug. 27. | Warroad, Minn. | Aug. 1 |
| Aug. 28. | Bedford Hills, N. Y. Adv. Aug. 15, 22. | Aug. 15 |
| Aug. 28. | Gates, N. Y. | Aug. 22 |
| Aug. 31. | Ravenna, Neb. | Aug. 15 |
| Aug. 31. | Council Bluffs, Ia. | Aug. 22 |
| Sep. 1. | Bowling Green, O. | Aug. 1 |
| Sep. 1. | Paterson, N. J. | Aug. 22 |
| Sept. 3. | Gloucester City, N. J. | Aug. 15 |
| Sep. 4. | Fall River, Mass. Adv. Aug. 22. | Aug. 22 |
| Sept. 5. | North Wales, Pa. Adv. Aug. 22. | Aug. 22 |
| Sep. 7. | San Antonio, Tex. Adv. Aug. 1, 8. | Aug. 1 |
| Sept. 7. | San Antonio, Tex. Adv. Aug. 22. | Aug. 22 |
| Sep. 8. | Wallingford, Conn Adv. Aug. 21. | Aug. 22 |
| Sep. 10. | Argenta, Ark. | Aug. 15 |
| Sep. 21. | San Antonio, Tex. Adv. Aug. 22. | Aug. 22 |
| Sept. 30. | Bay Minette, Ala. | Aug. 22 |

### BRIDGES.

| | | |
|---|---|---|
| Aug. 25. | Albany, N. Y. | Aug. 8 |
| Aug. 25. | Butler, Pa. Adv. Aug. 8 to 22. | Aug. 8 |
| Aug. 25. | Indianapolis, Ind. | Aug. 8 |
| Aug. 25. | Williamsport, Pa. | Aug. 15 |
| Aug. 25. | Union, N. Y. | Aug. 15 |
| Aug. 25. | Ritzville, Wash. | Aug. 15 |
| Aug. 25. | Baltimore, Md | Aug. 22 |
| Aug. 25. | Scranton, Pa. | Aug. 22 |
| Aug. 25. | Philadelphia, Pa. | Aug. 22 |
| Aug. 26. | Calgary, Alta. Adv. Aug. 8. | Aug. 8 |
| Aug. 26. | Philadelphia, Pa. | Aug. 22 |
| Aug. 27. | Baltimore, Md | Aug. 22 |
| Aug. 28. | Cincinnati, O. | Aug. 8 |
| Aug. 28. | Merced, Cal. | Aug. 15 |
| Aug. 28. | Pittsburgh, Pa. | Aug. 22 |
| Sep. 28. | Bowman, Ga. | Aug. 22 |
| Aug. 29. | Santa Fé, N. M. | Aug. 8 |
| Aug. 31. | Seattle, Wash. | July 25 |
| Aug. 31. | Flagstaff, Ariz. | Aug. 15 |
| Sep. 2. | St. Johns, Ariz. | Aug. 15 |
| Sept. 2. | Santa Ana, Cal. | Aug. 15 |
| Sep. 7. | Glasgow, Mont. | Aug. 1 |
| Sep. 7. | Medora, N. D. | Aug. 8 |
| Sept. 7. | Houston, Tex. | Aug. 22 |
| Sep. 8. | Marysville, Cal. | Aug. 15 |
| Sep. 11. | Lexington, Neb. | Aug. 15 |
| Sep. 11. | Overton, Neb. | Aug. 15 |
| Sept. 15. | Baltimore, Md Adv. Aug. 15, 22. | Aug. 15 |
| Sept. 15. | Chattanooga, Tenn | Aug. 22 |
| Oct. 5. | Toronto, Ont | Aug. 1 |

### PAVING AND ROADS.

| | | |
|---|---|---|
| Aug. 24. | Great Falls, Mont. | Aug. 22 |
| Aug. 25. | Smithfield, O. | Aug. 8 |
| Aug. 25. | Auburn, Neb. | Aug. 8 |
| Aug. 25. | Boston, Mass | Aug. 22 |
| Aug. 25. | Illinois | Aug. 22 |
| Aug. 25. | Kansas City, Mo. | Aug. 22 |
| Aug. 26. | West Hoboken, N. J. | Aug. 22 |
| Aug. 27. | Wheeling, W. Va. | Aug. 8 |
| Aug. 27. | Santa Maria, Cal | Aug. 15 |
| Aug. 28. | Benson, Minn. | Aug. 22 |
| Aug. 28. | Canton, O. Adv. Aug. 22. | Aug. 22 |
| Aug. 28. | Washington, D. C. | Aug. 22 |
| Aug. 31. | Indiana | Aug. 8 |
| Aug. 31. | Canal Dover, O. | Aug. 15 |
| Aug. 31. | California | Aug. 15 |
| Aug. 31. | Poplar Bluff, Mo. | Aug. 15 |
| Aug. 31. | Washington, D. C. | Aug. 22 |
| Aug. 31. | Minneapolis, Minn. | Aug. 22 |
| Aug. 31. | Verona, Pa. | Aug. 22 |
| Sep. 1. | Hood River, Ore. | Aug. 8 |
| Sep. 1. | Pennsylvania | Aug. 15 |
| Sep. 1. | Albany, N. Y. Adv. Aug. 15, 22. | Aug. 15 |
| Sept. 1. | Lancing, Tenn. | Aug. 22 |
| Sep. 1. | Ft. Pierce, Fla. | Aug. 22 |
| Sep. 1. | Harlowton, Mont. | Aug. 22 |
| Sep. 1. | Illinois | Aug. 22 |
| Sept. 2. | Cleveland, O. | Aug. 15 |
| Sept. 2. | Lorain, O. | Aug. 22 |
| Sep. 2. | Port Townsend, Wash. | Aug. 22 |
| Sep. 2. | Indianapolis, Ind. | Aug. 22 |
| Sep. 3. | Pocatello, Idaho | Aug. 15 |
| Sep. 4. | Cincinnati, O. | Aug. 15 |
| Sep. 4. | Indianapolis, Ind. | Aug. 22 |
| Sep. 4. | Indiana | Aug. 22 |
| Sep. 5. | Brooklyn, N. Y. | Aug. 15 |
| Sep. 7. | Indiana | Aug. 15 |
| Sep. 7. | Indiana | Aug. 22 |
| Sep. 8. | Indiana | Aug. 22 |
| Sep. 8. | Indiana | Aug. 8 |
| Sep. 8. | Indiana | Aug. 15 |
| Sept. 8. | Elizabeth, N. J. Adv. Aug. 22. | Aug. 22 |
| Sept. 8. | Pennsylvania | Aug. 22 |
| Sep. 10. | Indiana | Aug. 15 |
| Sep. 15. | Indiana | Aug. 8 |
| Sep. 15. | Oak Hill, O. | Aug. 22 |

### HYDRAULIC CONSTRUCTION AND RIVER IMPROVEMENTS.

| | | |
|---|---|---|
| Aug. 24. | Irrigation, Phoenix, Ariz. Adv. Aug. 1 to 15. | Aug. 1 |
| Aug. 25. | Cement, St. Catherines, Ont. | Aug. 8 |
| Aug. 25. | State Canal Work, Albany, N. Y. | Aug. 8 |
| Aug. 25. | Riprap, Stone, Etc., Portland, Ore. | Aug. 15 |
| Aug. 25. | Ditch, Nevada, Ia. | Aug. 15 |
| Aug. 26. | Breakwater, St. John, N. B. | July 18 |
| Aug. 26. | Drainage Pump Plant, Pekin, Ill. | Aug. 8 |
| Aug. 27. | Head House on Pier, Chicago, Ill | Aug. 1 |
| Aug. 27. | Dock, Newark, N. J. Adv. Aug. 15. | Aug. 15 |
| Aug. 28. | Drainage, Pittsfield, Ill. | Aug. 22 |
| Aug. 31. | Wharf, Kensington, Ont. | Aug. 8 |
| Aug. 31. | Wharf, Hamilton, Ont. | Aug. 8 |
| Aug. 31. | Wharf Improvement, Ottawa, Ont. | Aug. 15 |
| Aug. 31. | Breakwater, East Chezzetcook, N. S. | Aug. 15 |
| Aug. 31. | Breakwater, Ottawa, Ont. | Aug. 15 |
| Aug. 31. | Levee Work, Naples, Ill. | Aug. 22 |
| Sep. 1. | Dam, Cedar Rapids, Ia. | Aug 22 |
| Sep. 3. | Dredging and Bulkhead, Newark, N. J. | Aug. 22 |
| Sep. 4. | Revetment walls, Indian Lake, O. Adv. Aug. 22. | Aug. 22 |
| Sept. 4. | Terminal basin and bulkhead, Trenton, N. J. Adv. Aug. 22. | Aug. 22 |
| Sep. 8. | Dredging, Wilmington, N. C. Adv. Aug. 8 to 22. | Aug. 8 |
| Sept. 8. | Dredging, Wilmington, Del | Aug. 22 |
| Sep. 9. | Graving Dock, San Francisco, Cal. | Aug. 1 |
| Sep. 10. | Dredging; Dock, Jacksonville, Fla. | Aug. 15 |
| Sept. 11. | Drainage, St. Louis, Mo. | Aug. 22 |
| Sep. 14. | Ditch, Valparaiso, Ind. | Aug. 22 |
| Sep. 18. | Ditch, Gary, Ind. | Aug. 15 |
| Oct. 2. | Drainage Canal Work, New Orleans, La. Adv. Aug. 8 to 22. | Aug. 8 |

### POWER PLANTS.

| | | |
|---|---|---|
| Sept. 4. | Parker, S. D. | Aug. 22 |
| Sept. 30. | Bay Minette, Ala. | Aug. 22 |
| Aug. 31. | Huntington, Ind. Adv. Aug. 22. | Aug. 22 |

### PUBLIC BUILDINGS AND SCHOOLS.

| | | |
|---|---|---|
| Aug. 25. | Eureka, Cal. | July 25 |
| Aug. 25. | New Brighton, N. Y. | Aug. 1 |
| Aug. 25. | Indianpolis, Ind. | Aug. 8 |
| Aug. 25. | Cincinnati, O. | Aug. 8 |
| Aug. 25. | Smethport, Pa. | Aug. 8 |
| Aug. 25. | Columbus, O. | Aug. 8 |
| Aug. 25. | Pittsburgh, Pa. | Aug. 15 |
| Aug. 25. | Cleveland, O. | Aug. 22 |
| Aug. 25. | Wyoming, Ia | Aug. 22 |
| Aug. 26. | Tupelo, Miss. | July 25 |
| Aug. 26. | Marysville, O. | Aug. 1 |
| Aug. 26. | Cedar Grove, N. J. | Aug. 15 |
| Aug. 26. | Buffalo, N. Y. | Aug. 15 |
| Aug. 26. | Allentown, Pa. Adv. Aug. 15, 22. | Aug. 15 |
| Aug. 26. | Albany, N. Y. | Aug. 15 |
| Aug. 26. | Lebanon, O | Aug. 22 |
| Aug. 26. | Louisville, Ky. | Aug. |
| Aug. 27. | Grand Rapids, Minn. | Aug. |
| Aug. 27. | Millburn, N. J. | Aug. |
| Aug. 25. | Philadelphia, Pa | Aug. |
| Aug. 28. | Toronto, Ont. | Aug. |
| Aug. 28. | Fairmont, Minn. | Aug. |
| Aug. 28. | Dallas, Tex | Aug. |
| Aug. 29. | Mt. Healthy, O. | Aug. |
| Aug. 29. | Glenwillow, O. | Aug. |
| Aug. 29. | Newport, R. I. | Aug. |
| Aug. 31. | Upper Alton, Ill. | Aug. |
| Aug. 31. | Port Stanley, Ont. | Aug. |
| Aug. 31. | Dunning, Ill. | Aug. |
| Aug. 31. | San Juan, P. R. | Aug. |
| Aug. 31. | Wiarton, Ont. | Aug. |
| Aug. 31. | Alhambra, Cal | Aug. |
| Aug. 31. | Ft. Rouge, Man. | Aug. |
| Aug. 31. | Oshkosh, Wis | Aug. |
| Aug. 31. | Bridgeport, Conn | Aug. |
| Sep. 1. | Cincinnati, O. | July |
| Sep. 1. | Marinette, Wis. | Aug. |
| Sep. 1. | Albany, N. Y. | Aug. |
| Sep. 1. | Sisseton, S. D. | Aug. |
| Sep. 1. | Springfield, O. | Aug. |
| Sep. 1. | Newark, N. J. | Aug. |
| Sep. 1. | Lemoille, Ia. | Aug. |
| Sept. 1. | Toronto, Ont. | Aug. |
| Sept. 1. | Lemoille, Ia. | Aug. |
| Sep. 1. | Aberdeen, S. D. | Aug. |
| Sep. 2. | Fulton, Ky. | Aug. |
| Sept. 2. | Glens Falls, N. Y. | Aug. |
| Sept. 2. | Albert City, Ia. | Aug. |
| Sep. 3. | Winfield, Kan. | Aug. |
| Sep. 3. | Keokuk, Ia. | Aug. |
| Sep. 5. | Marietta, O. | Aug. |
| Sept. 5. | West Haverstraw, N. Y. Adv. Aug. 22. | Aug. |
| Sept. 5. | Hazleton, Ia. | Aug. |
| Sep. 8. | Bakersfield, Cal. | Aug. |
| Sep. 8. | Canal Dover, O. Adv. Aug. 8 to 22. | Aug. |
| Sep. 8. | Walthall, Miss. | Aug. |
| Sep. 8. | Morgantown, W. Va. | Aug. |
| Sep. 8. | Cleveland, O. | Aug. |
| Sept. 8. | Hudson, O | Aug. |
| Sept. 8. | Passaic, N. J. | Aug. |
| Sept. 8. | Bath, N. Y. Adv. Aug. 22. | Aug. |
| Sep. 8. | Albany, N. Y. Adv. Aug. 22. | Aug. |
| Sep, 9. | Holland, Mich. | Aug. |
| Sep. 10. | Wallum Lake, R. I. | Aug. |
| Sept. 10. | Toledo, O. | Aug. |
| Sep. 14. | Port Jervis, N. Y. | Aug. |
| Sep. 14. | Hudson, O. | Aug. |
| Sep. 15. | Roanoke, Va. | Aug. |
| Sep. 15. | Pensacola, Fla. Adv. Aug. 22. | Aug. |
| Sept. 24. | Mandan, N. D. | Aug. |
| Oct. 6. | Uvalde, Tex Adv. Aug. 22. | Aug. |

### PRIVATE BUILDINGS.

| | | |
|---|---|---|
| Aug. 25. | St. Paul, Minn. | Aug. |
| Aug. 26. | Atlanta, Ga. | Aug. |
| Aug. 28. | Middletown, O. | Aug. |
| Aug. 28. | Springfield, O. | Aug. |
| Aug. 28. | Easton, Pa | Aug. |
| Aug. 28. | Columbus, O | Aug. |
| Aug. 29. | Pearl City, T. H. | Aug. |
| Aug. 31. | Pittsburgh, Pa. | Aug. |
| Sept. 1. | Malvern, Ark | Aug. |
| Sept. 1. | Beeville, Tex | Aug. |
| Sept. 7. | Tulsa, Okla | Aug. |
| Sep. 10. | Findlay, O. | Aug. |
| Sept. 21. | Staunton, Va. | Aug. |

### NEW INDUSTRIAL PLANTS.

| | | |
|---|---|---|
| Sep. 1. | Vancouver, B. C. | Aug. |

### MISCELLANEOUS.

| | | |
|---|---|---|
| Aug. 24. | Seats in Stock Pavillion, Ithaca, N. Y. Adv. Aug. 8, 15. | Aug. |
| Aug. 24. | Garbage Disposal, San Antonio, Tex. Adv. Aug. 15. | Aug. 1 |
| Aug. 25. | Fence, Etc., Cincinnati, O. | Aug. |
| Aug. 25. | U. S. Govt. Supplies, Washington, D. C. | Aug. |
| Aug. 26. | Cable, Boston, Mass. | Aug. |
| Aug. 27. | Cement, Seattle, Wash. | Aug. |
| Aug. 27. | Fence, Tulsa, Okla. | Aug. |
| Aug. 28. | Coal and Ash Handling Apparatus, Philadelphia, Pa. | Aug. |
| Aug. 28. | Playgrounds, Brooklyn, N. Y. | Aug. |
| Aug. 29. | Coal Hoisting Tower, San Diego, Cal. | Aug. |
| Aug. 30. | Wire and Cable, New Orleans, La. | Aug. |
| Aug. 31. | Cement, Montgomery, Ala. Adv. Aug. 1 to 22. | Aug. |
| Aug. 31. | Elevators in P. O. Bldg., Columbus, O. | Aug. 1 |
| Aug. 31. | Automatic Sprinkler System, Chicago, Ill. | Aug. |
| Aug. 31. | Garbage Disposal, San Antonio, Tex Adv. Aug. 22. | Aug. |
| Sep. 1. | U. S. Govt. Supplies, Washington, D. C. | Aug. |
| Sep. 1. | Excavating, Baltimore, Md. | Aug. |
| Sep. 2. | Lumber, Steel, Etc., Oklahoma City, Okla. | Aug. 1 |
| Sept. 2. | Steel and Wire, Springfield, Mass | Aug. |
| Sept. 4. | Steel Bars, Jacksonville, Fla | Aug. |
| Sep. 4. | Elevator in P. O., McAlester, Okla. Adv. Aug. 22. | Aug. |
| Sep. 8. | U. S. Govt. Supplies, Washington, D. C. | Aug. |
| Sep. 10. | Electric Ry., Healdsburg, Cal. | Aug. |
| Sep. 11. | El. Rys., Routes 43 and 26, New York, N. Y. | Aug. 1 |
| Sep. 16. | Crane, Seattle, Wash. | Aug. |
| Sept. 22. | Boilers, Levis, Que. | Aug. |
| Oct. 16. | Garbage Disposal, Philadelphia, Pa. | Aug. |

★*Items marked thus give the names of parties awarded contracts.*